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Exam Name: Designing Microsoft Azure Infrastructure Solutions

Topic 1 - Litware Inc

Case Study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements.

If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the Qbutton to return to the question.

Overview. General Overview

Litware, Inc. is a medium-sized finance company.

Overview. Physical Locations

Litware has a main office in Boston.

Existing Environment. Identity Environment

The network contains an Active Directory forest named Litware.com that is linked to an Azure Active Directory (Azure AD) tenant named Litware.com. All users have Azure Active Directory Premium P2 licenses.

Litware has a second Azure AD tenant named dev.Litware.com that is used as a development environment.

The Litware.com tenant has a conditional ac?ess policy named capolicy1. Capolicy1 requires that when users manage the Azure subscription for a production environment by using the Azure portal, they must connect from a hybrid Azure

AD-joined device.

Existing Environment. Azure Environment

Litware has 10 Azure subscriptions that are linked to the Litware.com tenant and five Azure subscriptions that are linked to the dev.Litware.com tenant. All the subscriptions are in an Enterprise Agreement (EA).

The Litware.com tenant contains a custom Azure role-based access control (Azure RBAC) role named Role1 that grants the DataActions read permission to the blobs and files in Azure Storage.

Existing Environment. On-premises Environment

The on-premises network of Litware contains the resources shown in the following table.

Name	Type	Configuration
SERVER1 SERVER2 SERVER3	Ubuntu 18.04 vitual machines hosted on Hyper-V	The vitual machines host a third-party app named App1. App1 uses an external storage solution that provides Apache Hadoop-compatible data storage. The data storage supports POSIX access control list (ACL) file-level permissions.
SERVER10	Server that runs Windows Server 2016	The server contains a Microsoft SQL Server instance that hosts two databases named DB1 and DB2.

Existing Environment. Network Environment

Litware has ExpressRoute connectivity to Azure.

Planned Changes and Requirements. Planned Changes

Litware plans to implement the following changes:

Migrate DB1 and DB2 to Azure.

Migrate App1 to Azure virtual machines.

Deploy the Azure virtual machines that will host App1 to Azure dedicated hosts.

Planned Changes and Requirements. Authentication and Authorization Requirements Litware identifies the following authentication and authorization requirements:

Users that manage the production environment by using the Azure portal must connect from a hybrid Azure AD-joined device and authenticate by using Azure Multi-Factor Authentication (MFA).

The Network Contributor built-in RBAC role must be used to grant permission to all the virtual networks in all the Azure subscriptions.

To access the resources in Azure, App1 must use the managed identity of the virtual machines that will host the app.

Role1 must be used to assign permissions to the storage accounts of all the Azure subscriptions.

RBAC roles must be applied at the highest level possible.

Planned Changes and Requirements. Resiliency Requirements
Litware identifies the following resiliency requirements:
Once migrated to Azure, DB1 and DB2 must meet the following requirements:
- Maintain availability if two availability zones in the local Azure region fail.
- Fail over automatically.
- Minimize I/O latency.
App1 must meet the following requirements:
- Be hosted in an Azure region that supports availability zones.
- Be hosted on Azure virtual machines that support automatic scaling.
- Maintain availability if two availability zones in the local Azure region fail.
Planned Changes and Requirements. Security and Compliance Requirements Litware identifies the following security and compliance requirements:
Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.
On-premises users and services must be able to access the Azure Storage account that will host the data in App1.
Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented.
All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled.
App1 must not share physical hardware with other workloads.
Planned Changes and Requirements. Business Requirements
Litware identifies the following business requirements:
Minimize administrative effort.
Minimize costs.

QUESTION 1
You plan to migrate App1 to Azure.
You need to recommend a network connectivity solution for the Azure Storage account that will host the App1 dat a. The solution must meet the security and compliance requirements. What should you include in the recommendation?

A. a private endpoint
B. a service endpoint that has a service endpoint policy
C. Azure public peering for an ExpressRoute circuit
D. Microsoft peering for an ExpressRoute circuit

Correct Answer: A
Section:
Explanation:
Private Endpoint securely connect to storage accounts from on-premises networks that connect to the VNet using VPN or ExpressRoutes with private-peering. Private Endpoint also secure your storage account by configuring the storage firewall to block all connections on the public endpoint for the storage service. https://docs.microsoft.com/en-us/azure/expressroute/expressroute-faqs#microsoft-peering

QUESTION 2
You plan to migrate App1 to Azure. The solution must meet the authentication and authorization requirements. Which type of endpoint should App1 use to obtain an access token?

A. Azure Instance Metadata Service (IMDS)
B. Azure AD
C. Azure Service Management
D. Microsoft identity platform

Correct Answer: D
Section:
Explanation:
Scenario: To access the resources in Azure, App1 must use the managed identity of the virtual machines that will host the app. Managed identities provide an identity for applications to use when connecting to resources that support Azure Active Directory (Azure AD) authentication. Applications may use the managed identity to obtain Azure AD tokens.

Reference:
https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azureresources/overview

QUESTION 3
You migrate App1 to Azure. You need to ensure that the data storage for App1 meets the security and compliance requirement What should you do?

A. Create an access policy for the blob
B. Modify the access level of the blob service.
C. Implement Azure resource locks.
D. Create Azure RBAC assignments.

Correct Answer: A
Section:
Explanation:
Scenario: Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years. As an administrator, you can lock a subscription, resource group, or resource to prevent other users in your organization from accidentally deleting or modifying critical resources. The lock overrides any permissions the user might have.
Reference:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/lock-resources

QUESTION 4
You need to implement the Azure RBAC role assignments for the Network Contributor role. The solution must meet the authentication and authorization requirements. What is the minimum number of assignments that you must use?

A. 1
B. 2
C. 5
D. 10
E. 15

Correct Answer: B
Section:
Explanation:

QUESTION 5
HOTSPOT
You need to ensure that users managing the production environment are registered for Azure MFA and must authenticate by using Azure MFA when they sign in to the Azure portal. The solution must meet the authentication and authorization requirements.
What should you do? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

To register the users for Azure MFA, use:

Azure AD Identity Protection
Security defaults in Azure AD
Per-user MFA in the MFA management UI

To enforce Azure MFA authentication, configure:

Grant control in capolicy1
Session control in capolicy1
Sign-in risk policy in Azure AD Identity Protection for the Litware.com tenant

Answer Area:

To register the users for Azure MFA, use:

Azure AD Identity Protection
Security defaults in Azure AD
Per-user MFA in the MFA management UI

To enforce Azure MFA authentication, configure:

Grant control in capolicy1
Session control in capolicy1
Sign-in risk policy in Azure AD Identity Protection for the Litware.com tenant

Section:
Explanation:
1: Azure AD Identity Protection
2: Grant control in capolicy1

QUESTION 6
DRAG DROP
You need to configure an Azure policy to ensure that the Azure SQL databases have TDE enabled. The solution must meet the security and compliance requirements. Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions

Create an Azure policy definition that uses the deployIfNotExists effect.

Create a user-assigned managed identity.

Invoke a remediation task.

Create an Azure policy assignment.

Create an Azure policy definition that uses the Modify effect.

Answer Area

ⓐ ⓑ ⓒ ⓓ

Correct Answer:

Actions

Create a user-assigned managed identity.

Create an Azure policy definition that uses the Modify effect.

Answer Area

Create an Azure policy definition that uses the deployIfNotExists effect.

Create an Azure policy assignment.

Invoke a remediation task.

ⓐ ⓑ ⓒ ⓓ

Section:
Explanation:
Scenario: All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled. Step 1: Create an Azure policy definition that uses the deployIfNotExists identity.
The first step is to define the roles that deployIfNotExists and modify needs in the policy definition to successfully deploy the content of your included template. Step 2: Create an Azure policy assignment
When creating an assignment using the portal, Azure Policy both generates the managed identity and grants it the roles defined in roleDefinitionIds. Step 3: Invoke a remediation task
Resources that are non-compliant to a deployIfNotExists or modify policy can be put into a compliant state through Remediation. Remediation is accomplished by instructing Azure Policy to run the deployIfNotExists effect or the modify operations of the assigned policy on your existing resources and subscriptions, whether that assignment is to a management group, a subscription, a resource group, or an individual resource. During evaluation, the policy assignment with deployIfNotExists or modify effects determines if there are non-compliant resources or subscriptions. When non-compliant resources or subscriptions are found, the details are provided on the Remediation page.
Reference:
https://docs.microsoft.com/en-us/azure/governance/policy/how-to/remediate-resources

QUESTION 7
HOTSPOT

You plan to migrate App1 to Azure.

You need to recommend a high-availability solution for App1. The solution must meet the resiliency requirements. What should you include in the recommendation? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Number of host groups:
1
2
3
6

Number of virtual machine scale sets:
0
1
3

Answer Area:

Number of host groups:
1
2
3
6

Number of virtual machine scale sets:
0
1
3

Section:
Explanation:
Box 1: 3
Scenario: App1 must meet the following requirements:
Be hosted in an Azure region that supports availability zones.
Maintain availability if two availability zones in the local Azure region fail.
A host group is a resource that represents a collection of dedicated hosts. You create a host group in a region and an availability zone, and add hosts to it. Use Availability Zones for fault isolation
Availability zones are unique physical locations within an Azure region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking. A host group is created in a single availability zone. Once created, all hosts will be placed within that zone. To achieve high availability across zones, you need to create multiple host groups (one per zone) and spread your hosts accordingly.
Box 2: 1
When creating a virtual machine scale set you can specify an existing host group to have all of the VM instances created on dedicated hosts. Which means one scale set for each host group with dedicated hosts.
https://docs.microsoft.com/en-us/azure/virtual-machines/dedicated-hosts

QUESTION 8
HOTSPOT
You plan to migrate App1 to Azure.
You need to estimate the compute costs for App1 in Azure. The solution must meet the security and compliance requirements. What should you use to estimate the costs, and what should you implement to minimize the costs?
To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

To estimate the costs, use: [dropdown ▼]

Azure Advisor
The Azure Cost Management Power BI app
The Azure Total Cost of Ownership (TCO) calculator

Implement: [dropdown ▼]

Azure Reservations
Azure Hybrid Benefit
Azure Spot Virtual Machine pricing

Answer Area:

To estimate the costs, use: [dropdown ▼]

Azure Advisor
The Azure Cost Management Power BI app
The Azure Total Cost of Ownership (TCO) calculator

Implement: [dropdown ▼]

Azure Reservations
Azure Hybrid Benefit
Azure Spot Virtual Machine pricing

Section:
Explanation:

QUESTION 9
HOTSPOT
You plan to migrate App1 to Azure.
You need to recommend a storage solution for App1 that meets the security and compliance requirements. Which type of storage should you recommend, and how should you recommend configuring the storage? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Storage account type:

| Premium page blobs |
| Premium file shares |
| Standard general-purpose v2 |

Configuration:

| NFSv3 |
| Large file shares |
| Hierarchical namespace |

Answer Area:

Answer Area

Storage account type:

| Premium page blobs |
| Premium file shares |
| **Standard general-purpose v2** |

Configuration:

| **NFSv3** |
| Large file shares |
| Hierarchical namespace |

Section:
Explanation:
Box 1: Standard general-purpose v2
Standard general-purpose v2 supports Blob Storage.
Azure Storage provides data protection for Blob Storage and Azure Data Lake Storage Gen2.
Scenario:
Litware identifies the following security and compliance requirements:
Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years. On-premises users and services must be able to access the Azure Storage account that will host the data in App1.
Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented. All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled.
App1 must NOT share physical hardware with other workloads. Box 2: NFSv3

Scenario: Plan: Migrate App1 to Azure virtual machines.
Blob storage now supports the Network File System (NFS) 3.0 protocol. This support provides Linux file system compatibility at object storage scale and prices and enables Linux clients to mount a container in Blob storage from an Azure Virtual Machine (VM) or a computer on-premises.
Reference: https://docs.microsoft.com/en-us/azure/storage/blobs/data-protection-overview

QUESTION 10
HOTSPOT
How should the migrated databases DB1 and DB2 be implemented in Azure?

Hot Area:

Answer Area

Database:

| A single Azure SQL database |
| Azure SQL Managed Instance |
| An Azure SOL Database elastic pool |

Service tier:

| Hyperscale |
| Business Critical |
| General Purpose |

Answer Area:

Answer Area

Database:

A single Azure SQL database
Azure SQL Managed Instance
An Azure SOL Database elastic pool

Service tier:

Hyperscale
Business Critical
General Purpose

Section:
Explanation:
Box 1: SQL Managed Instance
Scenario: Once migrated to Azure, DB1 and DB2 must meet the following requirements:
Maintain availability if two availability zones in the local Azure region fail. Fail over automatically. Minimize I/O latency. The auto-failover groups feature allows you to manage the replication and failover of a group of databases on a server or all databases in a managed instance to another region. It is a declarative abstraction on top of the existing active georeplication feature, designed to simplify deployment and management of geo-replicated databases at scale. You can initiate a geo-failover manually or you can delegate it to the Azure service based on a user-defined policy. The latter option allows you to automatically recover multiple related databases in a secondary region after a catastrophic failure or other unplanned event that results in full or partial loss of the SQL Database or SQL Managed Instance availability in the primary region.
Box 2: Business critical
SQL Managed Instance is available in two service tiers:
General purpose: Designed for applications with typical performance and I/O latency requirements.
Business critical: Designed for applications with low I/O latency requirements and minimal impact of underlying maintenance operations on the workload.
Reference: https://docs.microsoft.com/en-us/azure/azure-sql/database/auto-failover-group-overview
https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/sql-managed-instance-paas-overview

Topic 2 - Fabrikam
Overview:
Existing Environment
Fabrikam, Inc. is an engineering company that has offices throughout Europe. The company has a main office in London and three branch offices in Amsterdam Berlin, and Rome. Active Directory Environment:
The network contains two Active Directory forests named corp.fabnkam.com and rd.fabrikam.com.
There are no trust relationships between the forests. Corp.fabrikam.com is a production forest that contains identities used for internal user and computer authentication. Rd.fabrikam.com is used by the research and development (R&D) department only. The R&D department is restricted to using on-premises resources only.
Network Infrastructure:
Each office contains at least one domain controller from the corp.fabrikam.com domain. The main office contains all the domain controllers for the rd.fabrikam.com forest. All the offices have a high-speed connection to the Internet.
An existing application named WebApp1 is hosted in the data center of the London office. WebApp1 is used by customers to place and track orders. WebApp1 has a web tier that uses Microsoft Internet Information Services (IIS) and a database tier that runs Microsoft SQL Server 2016. The web tier and the database tier are deployed to virtual machines that run on Hyper-V. The IT department currently uses a separate Hyper-V environment to test updates to WebApp1.
Fabrikam purchases all Microsoft licenses through a Microsoft Enterprise Agreement that includes Software Assurance. Problem Statement:

The use of Web App1 is unpredictable. At peak times, users often report delays. At other times, many resources for WebApp1 are underutilized. Requirements:

Planned Changes:

Fabrikam plans to move most of its production workloads to Azure during the next few years.

As one of its first projects, the company plans to establish a hybrid identity model, facilitating an upcoming Microsoft Office 365 deployment All R&D operations will remain on-premises. Fabrikam plans to migrate the production and test instances of WebApp1 to Azure.

Technical Requirements:

Fabrikam identifies the following technical requirements:

• Web site content must be easily updated from a single point.

• User input must be minimized when provisioning new app instances.

• Whenever possible, existing on premises licenses must be used to reduce cost.

• Users must always authenticate by using their corp.fabrikam.com UPN identity.

• Any new deployments to Azure must be redundant in case an Azure region fails.

• Whenever possible, solutions must be deployed to Azure by using platform as a service (PaaS).

• An email distribution group named IT Support must be notified of any issues relating to the directory synchronization services.

• Directory synchronization between Azure Active Directory (Azure AD) and corp.fabhkam.com must not be affected by a link failure between Azure and the on premises network. Database Requirements:

Fabrikam identifies the following database requirements:

• Database metrics for the production instance of WebApp1 must be available for analysis so that database administrators can optimize the performance settings.

• To avoid disrupting customer access, database downtime must be minimized when databases are migrated.

• Database backups must be retained for a minimum of seven years to meet compliance requirement Security Requirements:

Fabrikam identifies the following security requirements:

*Company information including policies, templates, and data must be inaccessible to anyone outside the company *Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails. *Administrators must be able authenticate to the Azure portal by using their corp.fabrikam.com credentials.

*All administrative access to the Azure portal must be secured by using multi-factor authentication.

*The testing of WebApp1 updates must not be visible to anyone outside the company.

QUESTION 1

You need to recommend a data storage strategy for WebApp1.

What should you include in in the recommendation?

A. an Azure SQL Database elastic pool

B. a vCore-based Azure SQL database

C. an Azure virtual machine that runs SQL Server

D. a fixed-size DTU AzureSQL database.

Correct Answer: B
Section:

QUESTION 2

You need to recommend a strategy for migrating the database content of WebApp1 to Azure. What should you include in the recommendation?

A. Use Azure Site Recovery to replicate the SQL servers to Azure.

B. Use SQL Server transactional replication.

C. Copy the BACPAC file that contains the Azure SQL database file to Azure Blob storage.

D. Copy the VHD that contains the Azure SQL database files to Azure Blob storage

Correct Answer: D
Section:
Explanation:

Before you upload a Windows virtual machine (VM) from on-premises to Azure, you must prepare the virtual hard disk (VHD or VHDX). Scenario: WebApp1 has a web tier that uses Microsoft Internet Information Services (IIS) and a database tier that runs Microsoft SQL Server 2016. The web tier and the database tier are deployed to virtual machines that run on Hyper-V.

Reference:

https://docs.microsoft.com/en-us/azure/virtual-machines/windows/prepare-for-upload-vhd-image

QUESTION 3
You need to recommend a strategy for the web tier of WebApp1. The solution must minimize What should you recommend?

A. Create a runbook that resizes virtual machines automatically to a smaller size outside of business hours.

B. Configure the Scale Up settings for a web app.

C. Deploy a virtual machine scale set that scales out on a 75 percent CPU threshold.

D. Configure the Scale Out settings for a web app.

Correct Answer: D
Section:

QUESTION 4
You need to recommend a solution to meet the database retention requirement. What should you recommend?

A. Configure a long-term retention policy for the database.

B. Configure Azure Site Recovery.

C. Configure geo replication of the database.

D. Use automatic Azure SQL Database backups.

Correct Answer: A
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/azure-sql/database/long-term-retention-overviewIn Azure SQL Database, you can configure a database with a long-term backup retention policy (LTR)to automatically retain the database backups in separate Azure Blob storage containers for up to 10years

QUESTION 5
What should you include in the identity management strategy to support the planned changes?

A. Move all the domain controllers from corp.fabrikam.com to virtual networks in Azure.

B. Deploy domain controllers for corp.fabrikam.com to virtual networks in Azure.

C. Deploy a new Azure AD tenant for the authentication of new R&D projects.

D. Deploy domain controllers for the rd.fabrikam.com forest to virtual networks in Azure.

Correct Answer: B
Section:
Explanation:
Directory synchronization between Azure Active Directory (Azure AD) and corp.fabrikam.com must not be affected by a link failure between Azure and the on-premises network. (This requires domain controllers in Azure)
Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails. (This requires domain controllers on-premises)

QUESTION 6
You need to recommend a notification solution for the IT Support distribution group.
What should you include in the recommendation?

A. Azure Network Watcher

B. an action group

C. a SendGrid account with advanced reporting

D. Azure AD Connect Health

Correct Answer: D
**Section:**
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-health-operations

QUESTION 7
HOTSPOT
To meet the authentication requirements of Fabrikam, what should you include in the solution? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Minimum number of Azure AD tenants: ▼

0
1
2
3
4

Minimum number of custom domains to add: ▼

0
1
2
3
4

Minimum number of conditional access policies to create: ▼

0
1
2
3
4

Answer Area:

Minimum number of Azure AD tenants:

0
1
2
3
4

Minimum number of custom domains to add:

0
1
2
3
4

Minimum number of conditional access policies to create:

0
1
2
3
4

Section:
Explanation:
1
1
0

QUESTION 8
HOTSPOT
You design a solution for the web tier of WebApp1 as shown in the exhibit.
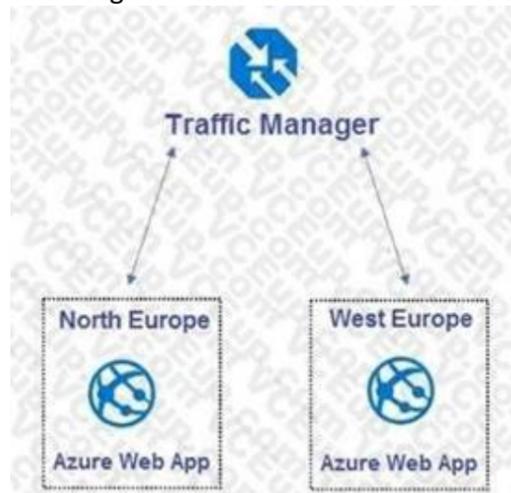
For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Hot Area:

Statements	Yes	No
The design supports the technical requirements for redundancy.	○	○
The design supports autoscaling.	○	○
The design requires a manual configuration if an Azure region fails.	○	○

Answer Area:

Statements	Yes	No
The design supports the technical requirements for redundancy.	○	○
The design supports autoscaling.	○	○
The design requires a manual configuration if an Azure region fails.	○	○

Section:

Explanation:

Box 1: Yes

Any new deployments to Azure must be redundant in case an Azure region fails.

Traffic Manager uses DNS to direct client requests to the most appropriate service endpoint based on a traffic-routing method and the health of the endpoints. An endpoint is any Internet-facing service hosted inside or outside of Azure. Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Box 2: Yes

Recent changes in Azure brought some significant changes in autoscaling options for Azure Web Apps

(i.e. Azure App Service to be precise as scaling happens on App Service plan level and has effect on all Web Apps running in that App Service plan). Box 3: No

Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Reference:

https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview

https://blogs.msdn.microsoft.com/hsirtl/2017/07/03/autoscaling-azure-web-apps/

QUESTION 9

HOTSPOT

You are evaluating the components of the migration to Azure that require you to provision an Azure Storage account. For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
You must provision an Azure Storage account for the SQL Server database migration.	○	○
You must provision an Azure Storage account for the Web site content storage.	○	○
You must provision an Azure Storage account for the Database metric monitoring.	○	○

Answer Area:

Answer Area

Statements	Yes	No
You must provision an Azure Storage account for the SQL Server database migration.	☑	○
You must provision an Azure Storage account for the Web site content storage.	○	☑
You must provision an Azure Storage account for the Database metric monitoring.	☑	○

Section:
Explanation:

Exam C

QUESTION 1
HOTSPOT
Your company has the divisions shown in the following table.

Division	Azure subscription	Azure Active Directory (Azure AD) tenant
East	Sub1, Sub2	East.contoso.com
West	Sub3, Sub4	West.contoso.com

You plan to deploy a custom application to each subscription. The application will contain the following:
A resource group
An Azure web app
Custom role assignments
An Azure Cosmos DB account
You need to use Azure Blueprints to deploy the application to each subscription.
What is the minimum number of objects required to deploy the application? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Management groups:
1	
2	
3	
4	

Blueprint definitions:
1	
2	
3	
4	

Blueprint assignments:
1	
2	
3	
4	

Answer Area:

Management groups:
1	
2	
3	
4	

Blueprint definitions:
1	
2	
3	
4	

Blueprint assignments:
1	
2	
3	
4	

Section:
Explanation:
Box 1: 2
One management group for East, and one for West.
When creating a blueprint definition, you'll define where the blueprint is saved. Blueprints can be saved to a management group or subscription that you have Contributor access to. If the location is a management group, the

blueprint is available to assign to any child subscription of that management group.
Box 2: 2
Box 3: 4
One assignment for each subscription.
"Assigning a blueprint definition to a management group means the assignment object exists at the management group. The deployment of artifacts still targets a subscription. To perform a management group assignment, the Create Or Update REST API must be used and the request body must include a value for properties.scope to define the target subscription." https://docs.microsoft.com/en-us/azure/governance/blueprints/overview#blueprint-assignment

QUESTION 2
HOTSPOT
You have an Azure subscription that contains 300 Azure virtual machines that run Windows Server 2016. You need to centrally monitor all warning events in the System logs of the virtual machines.
What should you include in the solutions? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Resource to create in Azure:

| An event hub |
| A Log Analytics workspace |
| A search service |
| A storage account |

Configuration to perform on the virtual machines:

| Create event subscriptions |
| Configure Continuous delivery |
| Install the Microsoft Monitoring Agent |
| Modify the membership of the Event Log Readers Groups |

Answer Area:

Resource to create in Azure:

| An event hub |
| A Log Analytics workspace |
| A search service |
| A storage account |

Configuration to perform on the virtual machines:

| Create event subscriptions |
| Configure Continuous delivery |
| Install the Microsoft Monitoring Agent |
| Modify the membership of the Event Log Readers Groups |

Section:
Explanation:

QUESTION 3
HOTSPOT
Your company deploys several Linux and Windows virtual machines (VMs) to Azure. The VMs are deployed with the Microsoft Dependency Agent and the Microsoft Monitoring Agent installed by using Azure VM extensions.
On-premises connectivity has been enabled by using Azure ExpressRoute.
You need to design a solution to monitor the VMs.
Which Azure monitoring services should you use? To answer, select the appropriate Azure monitoring services in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Scenario	Azure Monitoring Service
Analyze Network Security Group (NSG) flow logs for VMs attempting internet access.	▼ Azure Network Watcher / Azure ExpressRoute Monitor / Azure Service Endpoint Monitor / Azure DNS Analytics
Visualize the VMs with their different processes and dependencies on other computers and external processes.	▼ Azure Service Map / Azure Activity Log / Azure Service Health / Azure Advisor

Answer Area:

Scenario	Azure Monitoring Service
Analyze Network Security Group (NSG) flow logs for VMs attempting internet access.	▼ **Azure Network Watcher** / Azure ExpressRoute Monitor / Azure Service Endpoint Monitor / Azure DNS Analytics
Visualize the VMs with their different processes and dependencies on other computers and external processes.	▼ **Azure Service Map** / Azure Activity Log / Azure Service Health / Azure Advisor

Section:
Explanation:
Box 1: Azure Network Watcher
Traffic Analytics is a cloud-based solution that provides visibility into user and application activity in cloud networks. Traffic analytics analyzes Network Watcher network security group (NSG) flow logs to provide insights into traffic flow in your Azure cloud. With traffic analytics, you can:
Identify security threats to, and secure your network, with information such as open-ports, applications attempting internet access, and virtual machines (VM) connecting to rogue networks. Visualize network activity across your Azure subscriptions and identify hot spots.
Understand traffic flow patterns across Azure regions and the internet to optimize your network deployment for performance and capacity. Pinpoint network misconfigurations leading to failed connections in your network.
Box 2: Azure Service Map
Service Map automatically discovers application components on Windows and Linux systems and maps the communication between services. With Service Map, you can view your servers in the way that you think of them: as interconnected systems that deliver critical services. Service Map shows connections between servers, processes, inbound and outbound connection latency, and ports across any TCP-connected architecture, with no configuration required other than the installation of an agent.
Reference:

QUESTION 4
HOTSPOT
You manage a database environment for a Microsoft Volume Licensing customer named Contoso, Ltd. Contoso uses License Mobility through Software Assurance. You need to deploy 50 databases. The solution must meet the following requirements:
Support automatic scaling.
Minimize Microsoft SQL Server licensing costs.
What should you include in the solution? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Purchase model:

| DTU |
| vCore |
| Azure reserved virtual machine instances |

Deployment option:

| An Azure SQL managed instance |
| An Azure SQL Database elastic pool |
| A SQL Server Always On availability group |

Answer Area:

Purchase model:

| DTU |
| vCore |
| Azure reserved virtual machine instances |

Deployment option:

| An Azure SQL managed instance |
| An Azure SQL Database elastic pool |
| A SQL Server Always On availability group |

Section:
Explanation:
Box 1: vCore
Virtual core (vCore)-based purchasing model (recommended). This purchasing model provides a choice between a provisioned compute tier and a serverless compute tier. With the provisioned compute tier, you choose the exact amount of compute resources that are always provisioned for your workload. With the serverless compute tier, you specify the autoscaling of the compute resources over a configurable compute range Box 2: An Azure SQL Database Elastic pool Azure SQL Database provides the following deployment options for a database:
Single database represents a fully managed, isolated database.
Elastic pool is a collection of single databases with a shared set of resources, such as CPU or memory. Single databases can be moved into and out of an elastic pool.
Reference:

QUESTION 5
HOTSPOT
You plan to deploy a custom database solution that will have multiple instances as shown in the following table.

Host virtual machine	Azure Availability Zone	Azure region
USDB1	1	US East
USDB2	2	US East
USDB3	3	US East
EUDB1	1	West Europe
EUDB2	2	West Europe
EUDB3	3	West Europe

Client applications will access database servers by using db.contoso.com.

You need to recommend load balancing services for the planned deployment. The solution must meet the following requirements:

Access to at least one database server must be maintained in the event of a regional outage.

The virtual machines must not connect to the internet directly.

What should you include in the recommendation? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Global load balancing service:

- Azure Application Gateway
- Azure Front Door
- Azure Load Balancer
- Azure Traffic Manager

Availability Zone load balancing service:

- Azure Application Gateway
- Azure Front Door
- Azure Load Balancer
- Azure Traffic Manager

Answer Area:

Global load balancing service:

- Azure Application Gateway
- Azure Front Door
- Azure Load Balancer
- Azure Traffic Manager

Availability Zone load balancing service:

- Azure Application Gateway
- Azure Front Door
- Azure Load Balancer
- Azure Traffic Manager
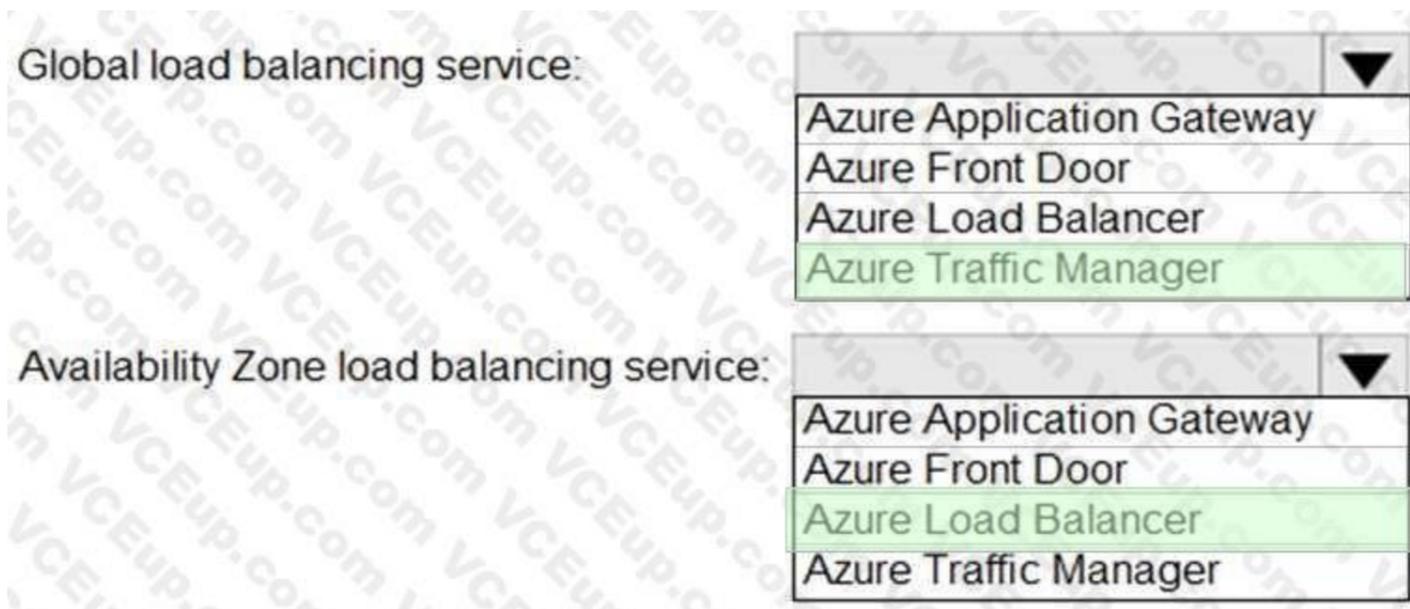
Section:

Explanation:

Box 1: Azure Traffic Manager

Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions, while providing high availability and responsiveness. Because Traffic Manager is a DNS-based load-balancing service, it load balances only at the domain level. For that reason, it can't fail over as quickly as Front Door, because of common challenges around DNS caching and systems not honoring DNS TTLs.

Service	Global/regional	Recommended traffic
Azure Front Door	Global	HTTP(S)
Traffic Manager	Global	ncn-HTTP(S)
Application Gateway	Regional	HTTP(S)
Azure Load Balancer	Regional	ncn-HTTP(S)

Reference:

https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/load-balancingoverview

QUESTION 6

HOTSPOT

You have a resource group named RG1 that contains the objects shown in the following table.

Name	Type	Location
ASP-RG1	App Service plan	East US
KV1	Azure Key Vault	East US
KV2	Azure Key Vault	West Europe
App1	Azure Logic Apps	West US

You need to configure permissions so that App1 can copy all the secrets from KV1 to KV2. App1 currently has the Get permission for the secrets in KV1. Which additional permissions should you assign to App1? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Permission to assign so that App1 can copy the secrets from KV1: ▼

Add
Backup
Create
List
Unwrap Key

Permission to assign so that App1 can copy the secrets to KV2: ▼

Create
Import
List
Wrap Key

Answer Area:

Permission to assign so that App1 can copy the secrets from KV1: ▼

Add
Backup
Create
List
Unwrap Key

Permission to assign so that App1 can copy the secrets to KV2: ▼

Create
Import
List
Wrap Key

Section:
Explanation:
Box 1: List
Get: Gets the specified Azure key vault.
List: The List operation gets information about the vaults associated with the subscription.
Box 2: Create
Create Or Update: Create or update a key vault in the specified subscription.
Reference:
https://docs.microsoft.com/en-us/rest/api/keyvault/

QUESTION 7
HOTSPOT

You have an Azure Active Directory (Azure AD) tenant.
You plan to use Azure Monitor to monitor user sign-ins and generate alerts based on specific user sign-in events. You need to recommend a solution to trigger the alerts based on the events.
What should you include in the recommendation? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Send Azure AD logs to:

| An Azure event hub |
| An Azure Log Analytics workspace |
| An Azure Storage account |

Signal type to use for triggering the alerts:

| Activity log |
| Log |
| Metric |

Answer Area:

Send Azure AD logs to:

| An Azure event hub |
| An Azure Log Analytics workspace |
| An Azure Storage account |

Signal type to use for triggering the alerts:

| Activity log |
| Log |
| Metric |

Section:
Explanation:
Box 1: An Azure Log Analytics workspace
To be able to create an alert we send the Azure AD logs to An Azure Log Analytics workspace.
Note: You can forward your AAD logs and events to either an Azure Storage Account, an Azure Event Hub, Log Analytics, or a combination of all of these. Box 2: Log
Ensure Resource Type is an analytics source like Log Analytics or Application Insights and signal type as Log.
Reference:
https://4sysops.com/archives/how-to-create-an-azure-ad-admin-login-alert/
https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-log

QUESTION 8
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. You are designing an Azure solution for a company that has four departments. Each department will deploy several Azure app services and Azure SQL databases. You need to recommend a solution to report the costs for each department to deploy the app services and the databases. The solution must provide a consolidated view for cost reporting that displays cost broken down by department. Solution: Create a separate resource group for each department. Place the resources for each department in its respective resource group. Does this meet the goal?

A. Yes

B. No

Correct Answer: B
Section:
Explanation:
Instead create a resources group for each resource type. Assign tags to each resource group.
Note: Tags enable you to retrieve related resources from different resource groups. This approach is helpful when you need to organize resources for billing or management.
Reference:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-using-tags

QUESTION 9
You are designing a solution that will include containerized applications running in an Azure Kubernetes Service (AKS) cluster. You need to recommend a load balancing solution for HTTPS traffic. The solution must meet thefollowing requirements:
Automatically configure load balancing rules as the applications are deployed to the cluster.
Support Azure Web Application Firewall (WAF).
Support cookie-based affinity.
Support URL routing.
What should you include the recommendation?

A. an NGINX ingress controller

B. Application Gateway Ingress Controller (AGIC)

C. an HTTP application routing ingress controller

D. the Kubernetes load balancer service

Correct Answer: B
Section:
Explanation:
Much like the most popular Kubernetes Ingress Controllers, the Application Gateway Ingress Controller provides several features, leveraging Azure's native Application Gateway L7 load balancer. To name a few:
URL routing
Cookie-based affinity
Secure Sockets Layer (SSL) termination
End-to-end SSL
Support for public, private, and hybrid web sites
Integrated support of Azure web application firewall
Application Gateway redirection support isn't limited to HTTP to HTTPS redirection alone. This is ageneric redirection mechanism, so you can redirect from and to any port you define using rules. Italso supports redirection to an external site as well.
Reference:
https://docs.microsoft.com/en-us/azure/application-gateway/features

QUESTION 10
You have an application named App1. App1 generates log files that must be archived for five years.
The log files must be readable by App1 but must not be modified.
Which storage solution should you recommend for archiving?

A. Ingest the log files into an Azure Log Analytics workspace

B. Use an Azure Blob storage account and a time-based retention policy

C. Use an Azure Blob storage account configured to use the Archive access tier

D. Use an Azure file share that has access control enabled

Correct Answer: B
Section:
Explanation:
Immutable storage for Azure Blob storage enables users to store business-critical data objects in a WORM (Write Once, Read Many) state. Immutable storage supports:
Time-based retention policy support: Users can set policies to store data for a specified interval. When a time-based retention policy is set, blobs can be created and read, but not modified or deleted. After the retention period has expired, blobs can be deleted but not overwritten.
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-immutable-storage

QUESTION 11
You have an Azure subscription that contains a Windows Virtual Desktop tenant.
You need to recommend a solution to meet the following requirements:
Start and stop Windows Virtual Desktop session hosts based on business hours.
Scale out Windows Virtual Desktop session hosts when required.
Minimize compute costs.
What should you include in the recommendation?

A. Microsoft Intune
B. a Windows Virtual Desktop automation task
C. Azure Automation
D. Azure Service Health

Correct Answer: C
Section:
Explanation:
Reference:
https://www.ciraltos.com/automatically-start-and-stop-wvd-vms-with-azure-automation/
https://wvdlogix.net/windows-virtual-desktop-host-pool-automation-2
https://getnerdio.com/academy/how-to-optimize-windows-virtual-desktop-wvd-azure-costs-withevent-based-autoscaling-and-azure-vm-scale-sets/

QUESTION 12
HOTSPOT
Your organization has developed and deployed several Azure App Service Web and API applications.
The applications use Azure Key Vault to store several authentication, storage account, and data encryption keys. Several departments have the following requests to support the applications:

Department	Request
Security	• Review membership of administrative roles and require to provide a justification for continued membership • Get alerts about changes in administrator assignments • See a history of administrator activation, including which changes administrators made to Azure resources.
Development	• Enable the applications to access Azure Key Vault and retrieve keys for use in code.
Quality Assurance	• Receive temporary administrator access to create and configure additional Web and API applications in the test environment.

You need to recommend the appropriate Azure service for each department request.
What should you recommend? To answer, configure the appropriate options in the dialog box in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Department	Azure Service

Security ▼

| Azure AD Privileged Identity Management |
| Azure AD Managed Service Identity |
| Azure AD Connect |
| Azure AD Identity Protection |

Development ▼

| Azure AD Privileged Identity Management |
| Azure AD Managed Service Identity |
| Azure AD Connect |
| Azure AD Identity Protection |

Quality Assurance ▼

| Azure AD Privileged Identity Management |
| Azure AD Managed Service Identity |
| Azure AD Connect |
| Azure AD Identity Protection |

Answer Area:

Department	Azure Service

Security ▼

Azure AD Privileged Identity Management
Azure AD Managed Service Identity
Azure AD Connect
Azure AD Identity Protection

Development ▼

Azure AD Privileged Identity Management
Azure AD Managed Service Identity
Azure AD Connect
Azure AD Identity Protection

Quality Assurance ▼

Azure AD Privileged Identity Management
Azure AD Managed Service Identity
Azure AD Connect
Azure AD Identity Protection

Section:
Explanation:
https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azureresources/overview

QUESTION 13
DRAG DROP
You need to design an architecture to capture the creation of users and the assignment of roles. The captured data must be stored in Azure Cosmos DB. Which Azure services should you include in the design? To answer, drag the appropriate services to the correct targets. Each service may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Select and Place:

Azure Services

- Azure Event Grid
- Azure Event Hubs
- Azure Functions
- Azure Log Analytics
- Azure Notification Hubs

Answer Area

Azure
Active Directory
audit log

↓

[ ]

↓

[ ]

↓

Cosmos DB

Correct Answer:

Azure Services

- Azure Event Grid
- Azure Log Analytics
- Azure Notification Hubs

Answer Area

Azure Active Directory audit log → Azure Event Hubs → Azure Functions → Cosmos DB
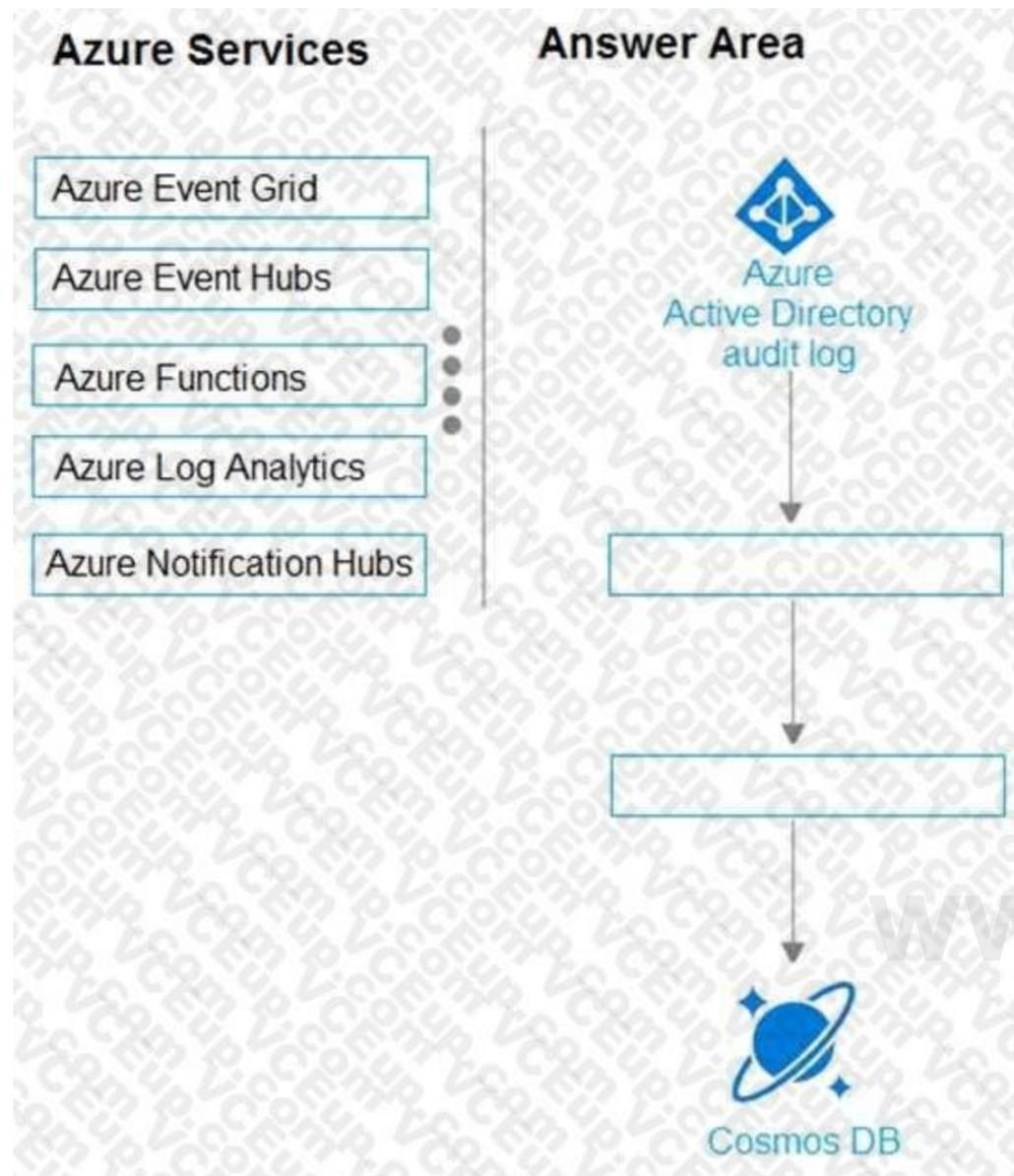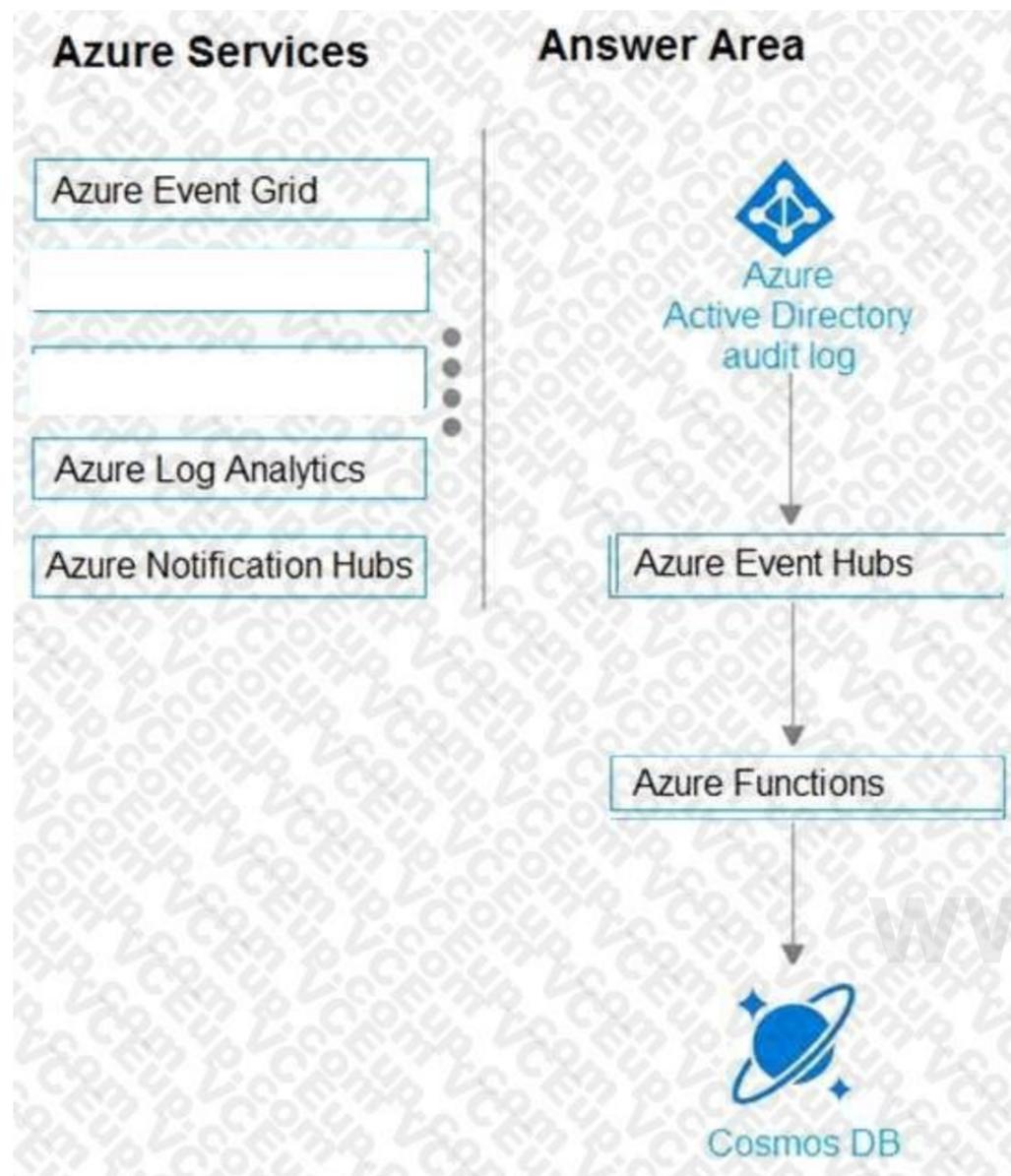
Section:

Explanation:

1. AAD audit log -> Event Hub (other two choices, LAW, storage, but not available in this question) https://docs.microsoft.com/en-us/azure/active-directory/reports-monitoring/tutorial-azuremonitor-stream-logs-to-event-hub 2. Azure function has the Event hub trigger and Cosmos output binding

a. Event Hub trigger for function

https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-event-hubstrigger?tabs=csharp

QUESTION 14

HOTSPOT

You are designing an application that will use Azure Linux virtual machines to analyze video files. The files will be uploaded from corporate offices that connect to Azure by using ExpressRoute. You plan to provision an Azure Storage account to host the files.

You need to ensure that the storage account meets the following requirements:

• Supports video files of up to 7 TB

• Provides the highest availability possible

• Ensures that storage is optimized for the large video files

• Ensures that files from the on-premises network are uploaded by using ExpressRoute How should you configure the storage account? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Storage account type:
- Premium file shares
- Premium page blobs
- Standard general-purpose v2

Data redundancy:
- Geo-redundant storage (GRS)
- Locally-redundant storage (LRS) -
- Zone-redundant storage (ZRS)

These are the selections for Data redundancy

Networking:
- Azure Route Server
- A private endpoint
- A service endpoint

Answer Area:

Answer Area

Storage account type:
- **Premium file shares**
- Premium page blobs
- Standard general-purpose v2

Data redundancy:
- Geo-redundant storage (GRS)
- **Locally-redundant storage (LRS)**
- Zone-redundant storage (ZRS)

These are the selections for Data redundancy

Networking:
- **Azure Route Server**
- A private endpoint
- A service endpoint

Section:
Explanation:

QUESTION 15
HOTSPOT
You need to recommend an Azure Storage Account configuration for two applications named Application1 and Applications. The configuration must meet the following requirements:
• Storage for Application1 must provide the highest possible transaction rates and the lowest possible latency.
• Storage for Application2 must provide the lowest possible storage costs per GB.
• Storage for both applications must be optimized for uploads and downloads.
• Storage for both applications must be available in an event of datacenter failure.
What should you recommend ? To answer, select the appropriate options in the answer area NOTE:
Each correct selection is worth one point

Hot Area:

Answer Area

Application1:

BlobStorage with Standard performance, Hot access tier, and Read-access geo-redundant storage (RA-GRS) replication
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
General purpose v1 with Premium performance and Locally-redundant storage (LRS) replication
General purpose v2 with Standard performance, Hot access tier, and Locally-redundant storage (LRS) replication

Application2:

BlobStorage with Standard performance, Cool access tier, and Geo-redundant storage (GRS) replication
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
General purpose v1 with Standard performance and Read-access geo-redundant storage (RA-GRS) replication
General purpose v2 with Standard performance, Cool access tier, and Read-access geo-redundant storage (RA-GRS) replication

Answer Area:

Answer Area

Application1:

BlobStorage with Standard performance, Hot access tier, and Read-access geo-redundant storage (RA-GRS) replication
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
General purpose v1 with Premium performance and Locally-redundant storage (LRS) replication
General purpose v2 with Standard performance, Hot access tier, and Locally-redundant storage (LRS) replication

Application2:

BlobStorage with Standard performance, Cool access tier, and Geo-redundant storage (GRS) replication
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
General purpose v1 with Standard performance and Read-access geo-redundant storage (RA-GRS) replication
General purpose v2 with Standard performance, Cool access tier, and Read-access geo-redundant storage (RA-GRS) replication

Section:
Explanation:
Box 1: BloblBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication.
BlockBlobStorage accounts: Storage accounts with premium performance characteristics for block blobs and append blobs. Recommended for scenarios with high transactions rates, or scenarios that use smaller objects or require consistently low storage latency.
Premium: optimized for high transaction rates and single-digit consistent storage latency.
Box 2: General purpose v2 with Standard performance..
General-purpose v2 accounts: Basic storage account type for blobs, files, queues, and tables.
Recommended for most scenarios using Azure Storage.
Reference:
https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview
https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy

QUESTION 16
HOTSPOT
You plan to develop a new app that will store business critical dat a. The app must meet the following requirements:
• Prevent new data from being modified for one year.
• Maximize data resiliency.
• Minimize read latency.
What storage solution should you recommend for the app? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Storage Account type:	Standard general-purpose v1
	Standard general-purpose v2
	Premium block blobs These are the selections for Storage Account type
Redundancy:	Zone-redundant storage (ZRS)
	Locally-redundant storage (LRS)
	Read-access geo-redundant storage (RA-GRS)

Answer Area:

Answer Area

Storage Account type:	Standard general-purpose v1
	Standard general-purpose v2
	Premium block blobs These are the selections for Storage Account type
Redundancy:	Zone-redundant storage (ZRS)
	Locally-redundant storage (LRS)
	Read-access geo-redundant storage (RA-GRS)

Section:
Explanation:

QUESTION 17
HOTSPOT
Your on-premises network contains a file server named Server1 that stores 500 GB of data.
You need to use Azure Data Factory to copy the data from Server1 to Azure Storage.
You add a new data factory.
What should you do next? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

From Server1:	▼
	Install an Azure File Sync agent
	Install a self-hosted integration runtime
	Install the File Server Resource Manager role service
From the data factory:	▼
	Create a pipeline
	Create an import/export job
	Provision an Azure-SQL Server Integration Services (SSIS) integration runtime

Answer Area:

From Server1:

▼
Install an Azure File Sync agent
Install a self-hosted integration runtime
Install the File Server Resource Manager role service

From the data factory:

▼
Create a pipeline
Create an import/export job
Provision an Azure-SQL Server Integration Services (SSIS) integration runtime

Section:

Explanation:

Box 1: Install a self-hosted integration runtime

The Integration Runtime is a customer-managed data integration infrastructure used by Azure Data Factory to provide data integration capabilities across different network environments. Box 2: Create a pipeline

With ADF, existing data processing services can be composed into data pipelines that are highly available and managed in the cloud. These data pipelines can be scheduled to ingest, prepare, transform, analyze, and publish data, and ADF manages and orchestrates the complex data and processing dependencies

Reference:

https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/move-sqlazure-adf https://docs.microsoft.com/pl-pl/azure/data-factory/tutorial-hybrid-copy-data-toolsyu31svc 3 months, 4 weeks ago https://docs.microsoft.com/en-us/azure/data-factory/create-self-hosted-integrationruntime?tabs=data-factory"A self-hosted integration runtime can run copy activities between a cloud data store and a datastore in a private network" https://docs.microsoft.com/en-us/azure/data-factory/introduction"With Data Factory, you can use the Copy Activity in a data pipeline to move data from both onpremisesand cloud source data stores to a centralization data store in the cloud for further analysis"

QUESTION 18

HOTSPOT

You have the resources shown in the following table.

Name	Type	Resource group
VM1	Azure virtual machine	RG1
VM2	On-premises virtual machine	Not applicable

You create a new resource group in Azure named RG2.

You need to move the virtual machines to RG2.

What should you use to move each virtual machine? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

VM1:

Azure Arc
Azure Lighthouse
Azure Migrate
Azure Resource Mover
The Data Migration Assistant (DMA)

VM2:

Azure Arc
Azure Lighthouse
Azure Migrate
Azure Resource Mover
The Data Migration Assistant (DMA)
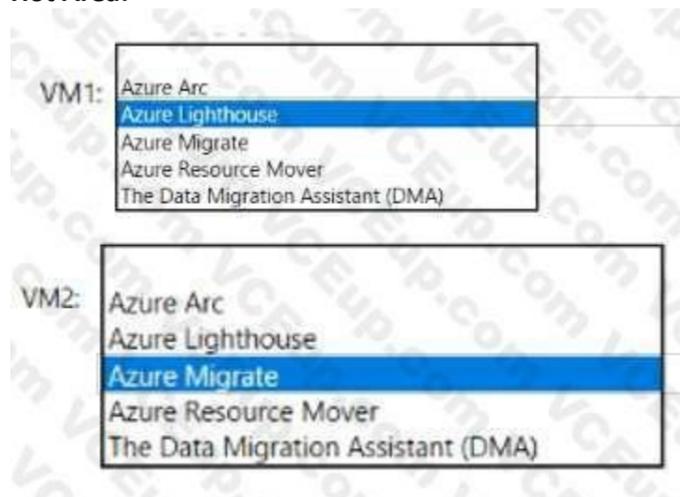
Answer Area:

Section:
Explanation:

VM1: Azure Lighthouse
VM2: Azure Migrate
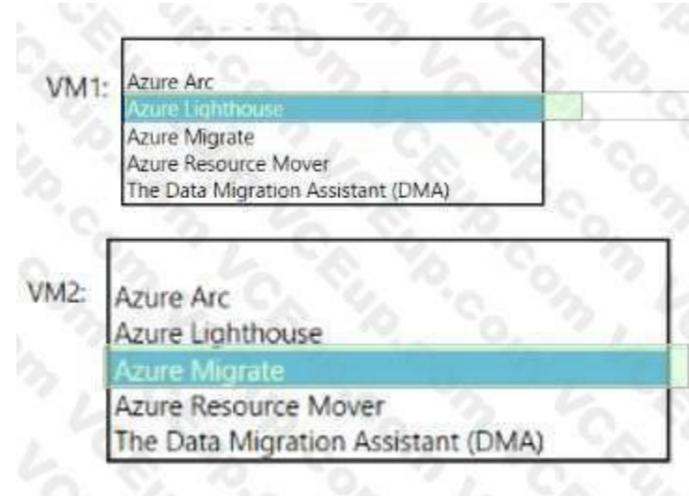
QUESTION 19
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company has deployed several virtual machines (VMs) on-premises and to Azure. Azure ExpressRoute has been deployed and configured for on-premises to Azure connectivity. Several VMs are exhibiting network connectivity issues.
You need to analyze the network traffic to determine whether packets are being allowed or denied to the VMs. Solution: Use Azure Network Watcher to run IP flow verify to analyze the network traffic Does the solution meet the goal?

A. Yes
B. No

Correct Answer: A
Section:
Explanation:
The Network Watcher Network performance monitor is a cloud-based hybrid network monitoring solution that helps you monitor network performance between various points in your network infrastructure. It also helps you monitor network connectivity to service and application endpoints and monitor the performance of Azure ExpressRoute.
Note:
IP flow verify checks if a packet is allowed or denied to or from a virtual machine. The information consists of direction, protocol, local IP, remote IP, local port, and remote port. If the packet is denied by a security group, the name of the rule that denied the packet is returned. While any source or destination IP can be chosen, IP flow verify helps administrators quickly diagnose connectivity issues from or to the internet and from or to the on-premises environment. IP flow verify looks at the rules for all Network Security Groups (NSGs) applied to the network interface, such as a subnet or virtual machine NIC. Traffic flow is then verified based on the configured settings to or from that network interface. IP flow verify is useful in confirming if a rule in a Network Security Group is blocking ingress or egress traffic to or from a virtual machine.
Reference:
https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-monitoring-overview
https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-ip-flow-verify-overview

QUESTION 20
You are designing a large Azure environment that will contain many subscriptions.
You plan to use Azure Policy as part of a governance solution.

To which three scopes can you assign Azure Policy definitions? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. management groups
B. subscriptions
C. Azure Active Directory (Azure AD) tenants
D. resource groups
E. Azure Active Directory (Azure AD) administrative units
F. compute resources

Correct Answer: A, D, E
Section:
Explanation:
Azure Policy evaluates resources in Azure by comparing the properties of those resources to business rules. Once your business rules have been formed, the policy definition or initiative is assigned to any scope of resources that Azure supports, such as management groups, subscriptions, resource groups, or individual resources.
Reference:
https://docs.microsoft.com/en-us/azure/governance/policy/overview

QUESTION 21
You need to recommend a solution to generate a monthly report of all the new Azure Resource Manager resource deployment in your subscription. What should you include in the recommendation?

A. Azure Analysis Services
B. Application Insights
C. Azure Monitor action groups
D. Azure Log Analytics

Correct Answer: D
Section:
Explanation:
Activity logs are kept for 90 days. You can query for any range of dates, as long as the starting date isn't more than 90 days in the past. Through activity logs, you can determine: what operations were taken on the resources in your subscription who started the operation when the operation occurred the status of the operation the values of other properties that might help you research the operation
Reference:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/view-activity-logs
https://docs.microsoft.com/en-us/azure/automation/change-tracking

QUESTION 22
You have 100 servers that run Windows Server 2012 R2 and host Microsoft SQL Server 2012 R2 instances. The instances host databases that have the following characteristics:
The largest database is currently 3 TB. None of the databases will ever exceed 4 TB.
Stored procedures are implemented by using CLR.
You plan to move all the data from SQL Server to Azure.
You need to recommend an Azure service to host the databases. The solution must meet the following requirements:
Whenever possible, minimize management overhead for the migrated databases.
Minimize the number of database changes required to facilitate the migration.
Ensure that users can authenticate by using their Active Directory credentials.
What should you include in the recommendation?

A. Azure SQL Database single databases
B. Azure SQL Database Managed Instance
C. Azure SQL Database elastic pools

D. SQL Server 2016 on Azure virtual machines

Correct Answer: B
Section:
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instanceSQL Managed Instance allows existing SQL Server customers to lift and shift their on-premisesapplications to the cloud with minimal application and database changes. At the same time, SQLManaged Instance preserves all PaaS capabilities (automatic patching and version updates,automated backups, high availability) that drastically reduce management overhead and TCO.
https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/transact-sql-tsql-differencessql-server#clr https://docs.microsoft.com/en-gb/azure/azure-sql/database/transact-sql-tsql-differences-sqlserver#transact-sql-syntax-not-supported-in-azure-sql-database

QUESTION 23
You have an Azure subscription that contains an Azure Blob storage account named store1.
You have an on-premises file server named Setver1 that runs Windows Sewer 2016. Server1 stores 500 GB of company files. You need to store a copy of the company files from Server 1 in store1.
Which two possible Azure services achieve this goal? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point

A. an Azure Batch account

B. an integration account

C. an On-premises data gateway

D. an Azure Import/Export job

E. Azure Data factory

Correct Answer: D, E
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/storage/common/storage-import-export-data-from-blobs
https://docs.microsoft.com/en-us/answers/questions/31113/fastest-method-to-copy-500gb-tablefrom-on-premise.html

QUESTION 24
You have an Azure subscription that contains two applications named App1 and App2. App1 is a sales processing application. When a transaction in App1 requires shipping, a message is added to an Azure Storage account queue, and then App2 listens to the queue for relevant transactions.
In the future, additional applications will be added that will process some of the shipping requests based on the specific details of the transactions. You need to recommend a replacement for the storage account queue to ensure that each additional application will be able to read the relevant transactions. What should you recommend?

A. one Azure Service Bus queue

B. one Azure Service Bus topic

C. one Azure Data Factory pipeline

D. multiple storage account queues

Correct Answer: B
Section:
Explanation:
A queue allows processing of a message by a single consumer. In contrast to queues, topics and subscriptions provide a one-to-many form of communication in a publish and subscribe pattern. It's useful for scaling to large numbers of recipients. Each published message is made available to each subscription registered with the topic. Publisher sends a message to a topic and one or more subscribers receive a copy of the message, depending on filter rules set on these subscriptions.
Reference:
https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topicssubscriptions

QUESTION 25

The application will host video files that range from 50 MB to 12 GB. The application will use certificate-based authentication and will be available to users on the internet. You need to recommend a storage option for the video files. The solution must provide the fastest read performance and must minimize storage costs. What should you recommend?

A. Azure Files

B. Azure Data Lake Storage Gen2

C. Azure Blob Storage

D. Azure SQL Database

Correct Answer: C
Section:
Explanation:
Blob Storage: Stores large amounts of unstructured data, such as text or binary data, that can be accessed from anywhere in the world via HTTP or HTTPS. You can use Blob storage to expose data publicly to the world, or to store application data privately.
Max file in Blob Storage. 4.77 TB.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/digital-media-video

QUESTION 26
You ate designing a SQL database solution. The solution will include 20 databases that will be 20 GB each and have varying usage patterns. You need to recommend a database platform to host the databases. The solution must meet the following requirements:
• The compute resources allocated to the databases must scale dynamically.
• The solution must meet an SLA of 99.99% uptime.
• The solution must have reserved capacity.
• Compute charges must be minimized.
What should you include in the recommendation?

A. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine

B. 20 instances of Azure SQL Database serverless

C. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine in an availability set

D. an elastic pool that contains 20 Azure SQL databases

Correct Answer: D
Section:
Explanation:
Azure SQL Database elastic pools are a simple, cost-effective solution for managing and scaling multiple databases that have varying and unpredictable usage demands. The databases in an elastic pool are on a single server and share a set number of resources at a set price. Elastic pools in Azure SQL Database enable SaaS developers to optimize the price performance for a group of databases within a prescribed budget while delivering performance elasticity for each database.
Guaranteed 99.995 percent uptime for SQL Database
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview
https://azure.microsoft.com/en-us/pricing/details/sql-database/elastic/
https://www.azure.cn/en-us/support/sla/virtual-machines/
https://techcommunity.microsoft.com/t5/azure-sql/optimize-price-performance-with-computeauto-scaling-in-azure/ba-p/966149

QUESTION 27
You are planning an Azure IoT Hub solution that will include 50,000 IoT devices.
Each device will stream data, including temperature, device ID, and time dat a. Approximately 50,000 records will be written every second. The data will be visualized in near real time. You need to recommend a service to store and query the data.
Which two services can you recommend? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. Azure Table Storage

B. Azure Event Grid

C. Azure Cosmos DB SQL API

D. Azure Time Series Insights

Correct Answer: C, D
Section:
Explanation:
D: Time Series Insights is a fully managed service for time series data. In this architecture, Time Series Insights performs the roles of stream processing, data store, and analytics and reporting. It accepts streaming data from either IoT Hub or Event Hubs and stores, processes, analyzes, and displays the data in near real time.
C: The processed data is stored in an analytical data store, such as Azure Data Explorer, HBase, Azure Cosmos DB, Azure Data Lake, or Blob Storage.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/scenarios/time-series

QUESTION 28
You are designing an application that will aggregate content for users.
You need to recommend a database solution for the application. The solution must meet the following requirements:
Support SQL commands.
Support multi-master writes.
Guarantee low latency read operations.
What should you include in the recommendation?

A. Azure Cosmos DB SQL API

B. Azure SQL Database that uses active geo-replication

C. Azure SQL Database Hyperscale

D. Azure Database for PostgreSQL

Correct Answer: A
Section:
Explanation:
With Cosmos DB's novel multi-region (multi-master) writes replication protocol, every region supports both writes and reads. The multi-region writes capability also enables:
Unlimited elastic write and read scalability.
99.999% read and write availability all around the world.
Guaranteed reads and writes served in less than 10 milliseconds at the 99th percentile.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/distribute-data-globally

QUESTION 29
You have SQL Server on an Azure virtual machine. The databases are written to nightly as part of a batch process. You need to recommend a disaster recovery solution for the dat a. The solution must meet the following requirements:
Provide the ability to recover in the event of a regional outage.
Support a recovery time objective (RTO) of 15 minutes.
Support a recovery point objective (RPO) of 24 hours.
Support automated recovery.
Minimize costs.
What should you include in the recommendation?

A. Azure virtual machine availability sets
B. Azure Disk Backup
C. an Always On availability group
D. Azure Site Recovery

Correct Answer: D
Section:
Explanation:
Replication with Azure Site Recover:
RTO is typically less than 15 minutes.
RPO: One hour for application consistency and five minutes for crash consistency.
Reference:
https://docs.microsoft.com/en-us/azure/site-recovery/site-recovery-sql

QUESTION 30
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. You need to deploy resources to host a stateless web app in an Azure subscription. The solution must meet the following requirements:
Provide access to the full .NET framework.
Provide redundancy if an Azure region fails.
Grant administrators access to the operating system to install custom application dependencies.
Solution: You deploy two Azure virtual machines to two Azure regions, and you create a Traffic Manager profile. Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section:
Explanation:
Azure Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions, while providing high availability and responsiveness.
https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview

QUESTION 31
You need to deploy resources to host a stateless web app in an Azure subscription. The solution must meet the following requirements:
• Provide access to the full .NET framework.
• Provide redundancy if an Azure region fails.
• Grant administrators access to the operating system to install custom application dependencies.
Solution: You deploy an Azure virtual machine to two Azure regions, and you deploy an Azure Application Gateway. Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section:
Explanation:
You need to deploy two Azure virtual machines to two Azure regions, but also create a Traffic Manager profile.

QUESTION 32

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company plans to deploy various Azure App Service instances that will use Azure SQL databases.

The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region. You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using an Azure policy initiative to enforce the location.

Does this meet the goal?

A. Yes

B. No

Correct Answer: A
Section:
Explanation:
Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances.
Reference:
https://docs.microsoft.com/en-us/azure/governance/policy/overview

QUESTION 33
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company plans to deploy various Azure App Service instances that will use Azure SQL databases.

The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region. You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using the Regulatory compliance dashboard in Azure Security Center.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B
Section:
Explanation:
The Regulatory compliance dashboard in Azure Security Center is not used for regional compliance.
Note: Instead Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances. Note 2: In the Azure Security Center regulatory compliance blade, you can get an overview of key portions of your compliance posture with respect to a set of supported standards. Currently supported standards are Azure CIS, PCI DSS 3.2, ISO 27001, and SOC TSP.
Reference:
https://docs.microsoft.com/en-us/azure/governance/policy/overview
https://azure.microsoft.com/en-us/blog/regulatory-compliance-dashboard-in-azure-security-centernow-available/

QUESTION 34
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company plans to deploy various Azure App Service instances that will use Azure SQL databases.

The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region. You need to recommend a solution to meet the regulatory requirement.
Solution: You recommend using an Azure policy to enforce the resource group location.
Does this meet the goal?

A. Yes

B. No

Correct Answer: A
Section:
Explanation:
Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances.
Reference:
https://docs.microsoft.com/en-us/azure/governance/policy/overview

QUESTION 35
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. Your company plans to deploy various Azure App Service instances that will use Azure SQL databases.
The App Service instances will be deployed at the same time as the Azure SQL databases.
The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region. You need to recommend a solution to meet the regulatory requirement.
Solution: You recommend creating resource groups based on locations and implementing resource locks on the resource groups. Does this meet the goal?

A. Yes

B. No

Correct Answer: B
Section:
Explanation:
Resource locks are not used for compliance purposes. Resource locks prevent changes from being made to resources.
Reference:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/lock-resources

QUESTION 36
Your company, named Contoso, Ltd., implements several Azure logic apps that have HTTP triggers.
The logic apps provide access to an on-premises web service.
Contoso establishes a partnership with another company named Fabrikam. IncL Fabrikam does not have an existing Azure Active Directory (Azure AD) tenant and uses third-party OAuth 2.0 identity management to authenticate its users. I Developers at Fabrikam plan to use a subset of the logic apps to build applications that will integrate with the on-premises web service of Contoso. You need to design a solution to provide the Fabrikam developers with access to the logic apps. The solution must meet the following requirements:
• Requests to the logic apps from the developers must be limited to lower rates than the requests from the users at Contoso.
• The developers must be able to rely on their existing OAuth 2.0 provider to gain access to the logic apps.
• The solution must NOT require changes to the logic apps.
• The solution must NOT use Azure AD guest accounts.
What should you include in the solution?

A. Azure AD business-to-business (B2B)

B. Azure AD Application Proxy

C. Azure Front Door

D. Azure API Management

Correct Answer: B
Section:
Explanation:

QUESTION 37
You have an Azure subscription.
You need to recommend an Azure Kubernetes service (AKS) solution that will use Linux nodes. The solution must meet the following requirements:
• Minimize the time it takes to provision compute resources during scale-out operations.
• Support autoscaling of Linux containers.
• Minimize administrative effort.
Which scaling option should you recommend?

A. Virtual Kubetet

B. cluster autoscaler

C. virtual nodes

D. horizontal pod autoscaler

Correct Answer: B
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/aks/virtual-nodes

QUESTION 38
You have an Azure subscription.
You need to deploy an Azure Kubernetes Service (AKS) solution that will use Windows Server 2019 nodes. The solution must meet the following requirements:
• Minimize the time it takes to provision compute resources during scale-out operations.
• Support autoscaling of Windows Server containers.
Which scaling option should you recommend?

A. horizontal pod autoscaler

B. Kubernetes version 1.20.2 or newer

C. cluster autoscaler

D. Virtual nodes

E. with Virtual Kubelet ACI

Correct Answer: C
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/aks/cluster-autoscaler#about-the-cluster-autoscaler

QUESTION 39
You are designing an order processing system in Azure that will contain the Azure resources shown in the following table.

Name	Type	Purpose
App1	Web app	Processes customer orders
Function1	Function	Check product availability at vendor 1
Function2	Function	Check product availability at vendor 2
storage1	Storage account	Stores order processing logs

The order processing system will have the following transaction flow:
A customer will place an order by using App1.
When the order is received, App1 will generate a message to check for product availability at vendor 1 and vendor 2. An integration component will process the message, and then trigger either Function1 or Function2 depending on the type of order. Once a vendor confirms the product availability, a status message for App1 will be generated by Function1 or Function2. All the steps of the transaction will be logged to storage1.
Which type of resource should you recommend for the integration component?

A. an Azure Data Factory pipeline

B. an Azure Service Bus queue

C. an Azure Event Grid domain

D. an Azure Event Hubs capture

Correct Answer: A
Section:
Explanation:
A data factory can have one or more pipelines. A pipeline is a logical grouping of activities that together perform a task. The activities in a pipeline define actions to perform on your data.
Data Factory has three groupings of activities: data movement activities, data transformation activities, and control activities. Azure Functions is now integrated with Azure Data Factory, allowing you to run an Azure function as a step in your data factory pipelines.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipelines-activities

QUESTION 40
You plan to deploy 10 applications to Azure. The applications will be deployed to two Azure Kubernetes Service (AKS) clusters. Each cluster will be deployed to a separate Azure region. The application deployment must meet the following requirements:
• Ensure that the applications remain available if a single AKS cluster fails.
• Ensure that the connection traffic over the internet is encrypted by using SSL without having to configure SSL on each container. Which service should you include in the recommendation?

A. AKS ingress controller

B. Azure Traffic Manager

C. Azure Front Door

D. Azure Load Balancer

Correct Answer: C
Section:
Explanation:
"Azure Front Door, which focuses on global load-balancing and site acceleration, and Azure CDN Standard, which offers static content caching and acceleration. The new Azure Front Door brings together security with CDN technology for a cloud-based CDN with threat protection and additional capabilities. "

QUESTION 41
You have an Azure subscription.
You need to recommend a solution to provide developers with the ability to provision Azure virtual machines. The solution must meet the following requirements:
• Only allow the creation of the virtual machines in specific regions.
• Only allow the creation of specific sizes of virtual machines.
What should you include in the recommendation?

A. Conditional Access policies

B. role-based access control (RBAC)

C. Azure Resource Manager (ARM) templates

D. Azure Policy

Correct Answer: B
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/governance/policy/tutorials/create-and-manage
https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/manage/azure-servermanagement/common-policies#restrict-vm-size

QUESTION 42
You plan to deploy an application named App1 that will run on five Azure virtual machines.
Additional virtual machines will be deployed later to run App1.
You need to recommend a solution to meet the following requirements for the virtual machines that will run App1:
Ensure that the virtual machines can authenticate to Azure Active Directory (Azure AD) to gain access to an Azure key vault, Azure Logic Apps instances, and an Azure SQL database. Avoid assigning new roles and permissions for Azure services when you deploy additional virtual machines. Avoid storing secrets and certificates on the virtual machines.
Which type of identity should you include in the recommendation?

A. a service principal that is configured to use a certificate

B. a system-assigned managed identity

C. a service principal that is configured to use a client secret

D. a user-assigned managed identity

Correct Answer: D
Section:
Explanation:
Managed identities for Azure resources is a feature of Azure Active Directory.
User-assigned managed identity can be shared. The same user-assigned managed identity can be associated with more than one Azure resource. Incorrect Answers:
B: System-assigned managed identity cannot be shared. It can only be associated with a single Azure resource.
Reference:
https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azureresources/overview

QUESTION 43
You have an application that is used by 6,000 users to validate their vacation requests. The application manages its own credential Users must enter a username and password to access the application. The application does NOT support identity providers.
You plan to upgrade the application to use single sign-on (SSO) authentication by using an Azure Active Directory (Azure AD) application registration. Which SSO method should you use?

A. password-based

B. OpenID Connect

C. header-based

D. SAML

Correct Answer: A
Section:

QUESTION 44
You have data files in Azure Blob Storage.

You plan to transform the files and move them to Azure Data Lake Storage.
You need to transform the data by using mapping data flow.
Which service should you use?

A. Azure Data Box Gateway

B. Azure Databricks

C. Azure Data Factory

D. Azure Storage Sync

Correct Answer: C
Section:
Explanation:
You can use Copy Activity in Azure Data Factory to copy data from and to Azure Data Lake Storage Gen2, and use Data Flow to transform data in Azure Data Lake Storage Gen2.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-data-lake-storage

QUESTION 45
You plan to deploy an app that will use an Azure Storage account.
You need to deploy the storage account. The solution must meet the following requirements:
• Store the data of multiple users.
• Encrypt each user's data by using a separate key.
• Encrypt all the data in the storage account by using Microsoft keys or customer-managed keys.
What should you deploy?

A. files in a general purpose v2 storage account.

B. blobs in an Azure Data Lake Storage Gen2 account.

C. files in a premium file share storage account.

D. blobs in a general purpose v2 storage account

Correct Answer: B
Section:

QUESTION 46
You plan to deploy an Azure SQL database that will store Personally Identifiable Information (Pll). You need to ensure that only privileged users can view the Pll. What should you include in the solution?

A. Transparent Data Encryption (TDE)

B. Data Discovery & Classification

C. dynamic data masking

D. role-based access control (RBAC)

Correct Answer: C
Section:

QUESTION 47
You have the resources shown in the following table.

Name	Type
AS1	Azure Synapse Analytics instance
CDB1	Azure Cosmos DB SQL API account

CDB1 hosts a container that stores continuously updated operational data.
You are designing a solution that will use AS! to analyze the operational data daily.
You need to recommend a solution to analyze the data without affecting the performance of the operational data store. What should you include in the recommendation?

A. Azure Cosmos DB change feed

B. Azure Data Factory with Azure Cosmos DB and Azure Synapse Analytics connectors

C. Azure Synapse Analytics with PolyBase data loading

D. Azure Synapse Link for Azure Cosmos DB

Correct Answer: D
Section:

QUESTION 48
You store web access logs data in Azure Blob storage.
You plan to generate monthly reports from the access logs.
You need to recommend an automated process to upload the data to Azure SQL Database every month.
What should you include in the recommendation?

A. Azure Data Factory

B. Data Migration Assistant

C. Microsoft SQL Server Migration Assistant (SSMA)

D. AzCopy

Correct Answer: A
Section:
Explanation:
Azure Data Factory is the platform that solves such data scenarios. It is the cloud-based ETL and data integration service that allows you to create data-driven workflows for orchestrating data movement and transforming data at scale. Using Azure Data Factory, you can create and schedule data-driven workflows (called pipelines) that can ingest data from disparate data stores. You can build complex ETL processes that transform data visually with data flows or by using compute services such as Azure HDInsight Hadoop, Azure Databricks, and Azure SQL Database.
Reference:
https://docs.microsoft.com/en-gb/azure/data-factory/introduction

QUESTION 49
HOTSPOT
You plan to deploy Azure Databricks to support a machine learning application. Data engineers will mount an Azure Data Lake Storage account to the Databricks file system. Permissions to folders are granted directly to the data engineers. You need to recommend a design for the planned Databrick deployment. The solution must meet the following requirements:
Ensure that the data engineers can only access folders to which they have permissions. Minimize development effort. Minimize costs.
What should you include in the recommendation? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Databricks SKU:

Premium
Standard

Cluster configuration:

Credential passthrough
Managed identities
MLflow
A runtime that contains Photon
Secret scope

Answer Area:

Answer Area

Databricks SKU:

Premium
Standard

Cluster configuration:

Credential passthrough
Managed identities
MLflow
A runtime that contains Photon
Secret scope

Section:
Explanation:
Box 1: Standard
Choose Standard to minimize costs.
Box 2: Credential passthrough
Athenticate automatically to Azure Data Lake Storage Gen1 (ADLS Gen1) and Azure Data Lake Storage Gen2 (ADLS Gen2) from Azure Databricks clusters using the same Azure Active Directory (Azure AD) identity that you use to log into Azure Databricks. When you enable Azure Data Lake Storage credential passthrough for your cluster, commands that you run on that cluster can read and write data in Azure Data Lake Storage without requiring you to configure service principal credentials for access to storage.
Reference: https://docs.microsoft.com/en-us/azure/databricks/security/credential-passthrough/adls-passthrough

QUESTION 50
HOTSPOT
You plan to deploy an Azure web app named App1 that will use Azure Active Directory (Azure AD) authentication. App1 will be accessed from the internet by the users at your company. All the users have computers that run Windows 10 and are joined to Azure AD. You need to recommend a solution to ensure that the users can connect to App1 without being prompted for authentication and can access App1 only from company-owned computers. What should you recommend for each requirement? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

The users can connect to App1 without being prompted for authentication:

| An Azure AD app registration |
| An Azure AD managed identity |
| Azure AD Application Proxy |

The users can access App1 only from company-owned computers:

| A Conditional Access policy |
| An Azure AD administrative unit |
| Azure Application Gateway |
| Azure Blueprints |
| Azure Policy |

Answer Area:

Answer Area

The users can connect to App1 without being prompted for authentication:

| An Azure AD app registration |
| An Azure AD managed identity |
| Azure AD Application Proxy |

The users can access App1 only from company-owned computers:

| A Conditional Access policy |
| An Azure AD administrative unit |
| Azure Application Gateway |
| Azure Blueprints |
| Azure Policy |

Section:
Explanation:
Box 1: An Azure AD app registration
Azure active directory (AD) provides cloud based directory and identity management services.You can use azure AD to manage users of your application and authenticate access to your applications using azure active directory. You register your application with Azure active directory tenant.
Box 2: A conditional access policy

Conditional Access policies at their simplest are if-then statements, if a user wants to access a resource, then they must complete an action. By using Conditional Access policies, you can apply the right access controls when needed to keep your organization secure and stay out of your user's way when not needed.
Reference:
https://codingcanvas.com/using-azure-active-directory-authentication-in-your-web-application/ https://docs.microsoft.com/enus/azure/active-directory/conditional-access/overview

QUESTION 51
DRAG DROP
You have an Azure subscription. The subscription contains Azure virtual machines that run Windows Server 2016 and Linux. You need to use Azure Monitor to design an alerting strategy for security-related events.
Which Azure Monitor Logs tables should you query? To answer, drag the appropriate tables to the correct log types. Each table may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Select and Place:

Tables	Answer Area	
AzureActivity	Events from Windows event logs:	Table
AzureDiagnostics	Events from Linux system logging:	Table
Event		
Syslog		

Correct Answer:

Tables	Answer Area	
AzureActivity	Events from Windows event logs:	Event
AzureDiagnostics	Events from Linux system logging:	Syslog

Section:

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-monitor/platform/data-sources-windows-events https://docs.microsoft.com/enus/azure/azure-monitor/agents/data-sources-syslog

QUESTION 52

DRAG DROP

Your on-premises network contains a server named Server1 that runs an ASP.NET application named App1. You have a hybrid deployment of Azure Active Directory (Azure AD).

You need to recommend a solution to ensure that users sign in by using their Azure AD account and Azure Multi-Factor Authentication (MFA) when they connect to App1 from the internet. Which three features should you recommend be deployed and configured in sequence? To answer, move the appropriate features from the list of features to the answer area and arrange them in the correct order.

Select and Place:

Services	Answer Area
an internal Azure Load Balancer	
an Azure AD conditional access policy	
Azure AD Application Proxy	
an Azure AD managed identity	
a public Azure Load Balancer	
an Azure AD enterprise application	
an App Service plan	

Correct Answer:

Services

an internal Azure Load Balancer

an Azure AD managed identity

a public Azure Load Balancer

an App Service plan

Answer Area

Azure AD Application Proxy

an Azure AD enterprise application

an Azure AD conditional access policy

Section:
Explanation:

QUESTION 53
HOTSPOT
You need to design a storage solution for an app that will store large amounts of frequently used data. The solution must meet the following requirements:
Maximize data throughput.
Prevent the modification of data for one year.
Minimize latency for read and write operations.
Which Azure Storage account type and storage service should you recommend? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Storage account type:

BlobStorage
BlockBlobStorage
FileStorage
StorageV2 with Premium performance
StorageV2 with Standard performance

Storage service:

Blob
File
Table

Answer Area:

Answer Area

Storage account type:

| BlobStorage |
| BlockBlobStorage |
| FileStorage |
| StorageV2 with Premium performance |
| StorageV2 with Standard performance |

Storage service:

| Blob |
| File |
| Table |

Section:

Explanation:

Box 1: BlockBlobStorage

Block Blob is a premium storage account type for block blobs and append blobs. Recommended for scenarios with high transactions rates, or scenarios that use smaller objects or require consistently low storage latency. Box 2: Blob

The Archive tier is an offline tier for storing blob data that is rarely accessed. The Archive tier offers the lowest storage costs, but higher data retrieval costs and latency compared to the online tiers (Hot and Cool). Data must remain in the Archive tier for at least 180 days or be subject to an early deletion charge.

Reference: https://docs.microsoft.com/en-us/azure/storage/blobs/archive-blob

QUESTION 54

HOTSPOT

You deploy several Azure SQL Database instances.

You plan to configure the Diagnostics settings on the databases as shown in the following exhibit.
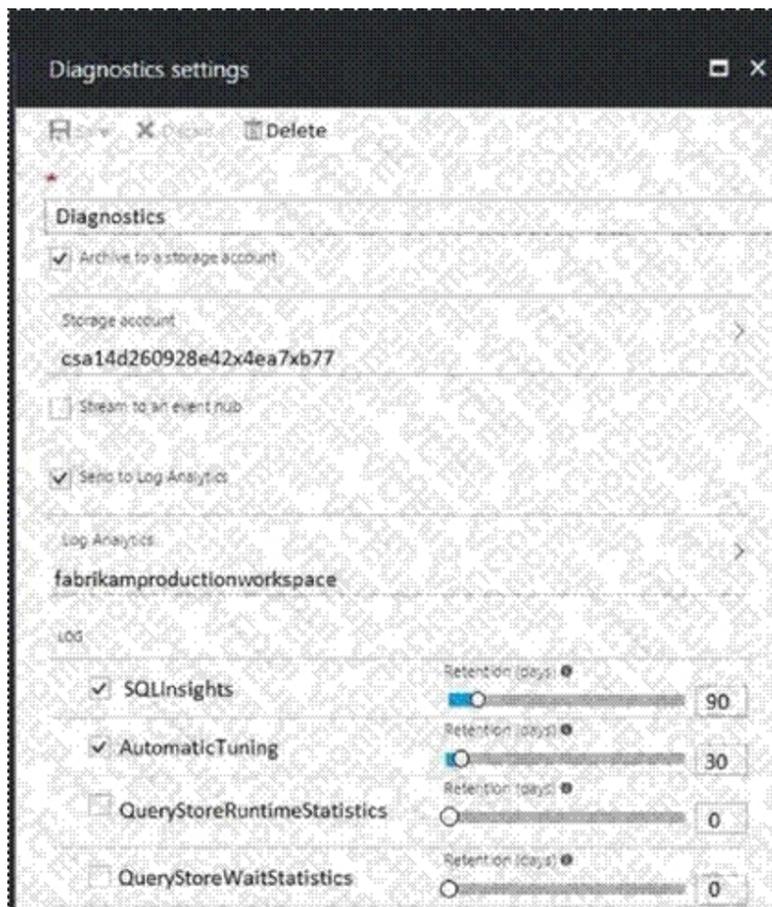
Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic. NOTE: Each correct selection is worth one point.

Hot Area:

The amount of time that SQLInsights data will be stored in blob storage is [answer choice].	▼
	30 days
	90 days
	730 days
	indefinite

The maximum amount of time that SQLInsights data can be stored in Azure Log Analytics is [answer choice].	▼
	30 days
	90 days
	730 days
	indefinite

Answer Area:

The amount of time that SQLInsights data will be stored in blob storage is [answer choice].

30 days
90 days
730 days
indefinite

The maximum amount of time that SQLInsights data can be stored in Azure Log Analytics is [answer choice].

30 days
90 days
730 days
indefinite

Section:
Explanation:
In the exhibit, the SQLInsights data is configured to be stored in Azure Log Analytics for 90 days. However, the question is asking for the "maximum" amount of time that the data can be stored which is 730 days.

QUESTION 55
The developers at your company are building a containerized Python Django app.
You need to recommend platform to host the app. The solution must meet the following requirements:
Support autoscaling.
Support continuous deployment from an Azure Container Registry.
Provide built-in functionality to authenticate app users by using Azure Active Directory (Azure AD). Which platform should you include in the recommendation?

A. Azure Container instances
B. an Azure App Service instance that uses containers
C. Azure Kubernetes Service (AKS)

Correct Answer: C
Section:
Explanation:
To keep up with application demands in Azure Kubernetes Service (AKS), you may need to adjust the number of nodes that run your workloads. The cluster autoscaler component can watch for pods in your cluster that can't be scheduled because of resource constraints. When issues are detected, the number of nodes in a node pool is increased to meet the application demand. Azure Container Registry is a private registry for hosting container images. It integrates well with orchestrators like Azure Container Service, including Docker Swarm, DC/OS, and the new Azure Kubernetes service. Moreover, ACR provides capabilities such as Azure Active Directory-based authentication, webhook support, and delete operations.
Reference:
https://docs.microsoft.com/en-us/azure/aks/cluster-autoscaler
https://medium.com/velotio-perspectives/continuous-deployment-with-azure-kubernetes-serviceazurecontainerregistry-jenkins-ca337940151b

QUESTION 56
You have an on-premises network to which you deploy a virtual appliance.
You plan to deploy several Azure virtual machines and connect the on-premises network to Azure by using a Site-to-Site connection.
All network traffic that will be directed from the Azure virtual machines to a specific subnet must flow through the virtual appliance.
You need to recommend solutions to manage network traffic.
Which two options should you recommend? Each correct answer presents a complete solution.

A. Configure Azure Traffic Manager.

B. Implement an Azure virtual network.

C. Implement Azure ExpressRoute.

D. Configure a routing table.

Correct Answer: C, D
Section:
Explanation:
Connectivity can be from an any-to-any (IP VPN) network, a point-to-point Ethernet network, or a virtual cross-connection through a connectivity provider at a co-location facility. ExpressRoute connections do not go over the public Internet. This allows ExpressRoute connections to offer more reliability, faster speeds, lower latencies, and higher security than typical connections over the Internet.
Reference:
https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-forced-tunneling-rm
https://docs.microsoft.com/en-us/azure/expressroute/expressroute-introduction

QUESTION 57
You are designing a message application that will run on an on-premises Ubuntu virtual machine.
The application will use Azure Storage queues.
You need to recommend a processing solution for the application to interact with the storage queues. The solution must meet the following requirements:
Create and delete queues daily.
Be scheduled by using a CRON job.
Upload messages every five minutes.
What should developers use to interact with the queues?

A. Azure CLI

B. AzCopy

C. Azure Data Factory

D. .NET Core

Correct Answer: D
Section:
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/storage/queues/storage-tutorial-queues

QUESTION 58
You need to design a highly available Azure SQL database that meets the following requirements:
* Failover between replicas of the database must occur without any data loss.
* The database must remain available in the event of a zone outage.
* Costs must be minimized.
Which deployment option should you use?

A. Azure SQL Database Business Critical

B. Azure SQL Database Managed Instance Business Critical

C. Azure SQL Database Serverless

D. Azure SQL Database Premium

Correct Answer: D

Section:
Explanation:

QUESTION 59
You plan to store data in Azure Blob storage for many years. The stored data will be accessed rarely. You need to ensure that the data in Blob storage is always available for immediate access. The solution must minimize storage costs. Which storage tier should you use?

A. Cool

B. Archive

C. Hot

Correct Answer: A
Section:
Explanation:
Azure cool tier is equivalent to the Amazon S3 Infrequent Access (S3-IA) storage in AWS that provides a low cost high performance storage for infrequently access data. Note: Azure's cool storage tier, also known as Azure cool Blob storage, is for infrequently-accessed data that needs to be stored for a minimum of 30 days. Typical use cases include backing up data before tiering to archival systems, legal data, media files, system audit information, datasets used for big data analysis and more.
The storage cost for this Azure cold storage tier is lower than that of hot storage tier. Since it is expected that the data stored in this tier will be accessed less frequently, the data access charges are high when compared to hot tier. There are no additional changes required in your applications as these tiers can be accessed using APIs in the same manner that you access Azure storage.
Reference:
https://cloud.netapp.com/blog/low-cost-storage-options-on-azure

QUESTION 60
You use Azure virtual machines to run a custom application that uses an Azure SQL database on the back end. The IT apartment at your company recently enabled forced tunneling,
Since the configuration change, developers have noticed degraded performance when they access the database You need to recommend a solution to minimize latency when accessing the database. The solution must minimize costs What should you include in the recommendation?

A. Azure SQL Database Managed instance

B. Azure virtual machines that run Microsoft SQL Server servers

C. Always On availability groups

D. virtual network (VNET) service endpoint

Correct Answer: D
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-service-endpointsoverview

QUESTION 61
Your network contains an on-premises Active Directory forest.
You discover that when users change jobs within your company, the membership of the user groups are not being updated. As a result, the users can access resources that are no longer relevant to their job. You plan to integrate Active Directory and Azure Active Directory (Azure AD) by using Azure AD Connect. You need to recommend a solution to ensure that group owners are emailed monthly about the group memberships they manage.
What should you include in the recommendation?

A. conditional access policies

B. Tenant Restrictions

C. Azure AD access reviews

D. Azure AD Identity Protection

Correct Answer: C
Section:
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview

QUESTION 62
HOTSPOT
You have an Azure App Service web app that uses a system-assigned managed identity.
You need to recommend a solution to store their settings of the web app as secrets in an Azure key vault The solution must meet the following requirements:
• Minimize changes to the app code,
• Use the principle of least privilege.
What should you include in the recommendation? To answer, select the appropriate options in the answer area.

Hot Area:

Answer Area

Key Vault integration method:	
	Key Vault references in Application settings
	Key Vault references in Appsettings.json
	Key Vault references in Web.config
	Key Vault SDK

Key Vault permissions for the managed identity:	
	Keys: Get
	Keys: List and Get
	Secrets: Get
	Secrets: List and Get

Answer Area:

Answer Area

Key Vault integration method:	
	Key Vault references in Application settings
	Key Vault references in Appsettings.json
	Key Vault references in Web.config
	Key Vault SDK

Key Vault permissions for the managed identity:	
	Keys: Get
	Keys: List and Get
	Secrets: Get
	Secrets: List and Get

Section:
Explanation:

QUESTION 63
HOTSPOT
You need to design an Azure policy that will implement the following functionality:
• For new resources, assign tags and values that match the tags and values of the resource group to which the resources are deployed.
• For existing resources, identify whether the tags and values match the tags and values of the resource group that contains the resources.
• For any non-compliant resources, trigger auto-generated remediation tasks to create missing tags and values. The solution must use the principle of least privilege.
What should you include in the design? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Azure Policy effect to use:

Append
EnforceOPAConstraint
EnforceRegoPolicy
Modify

Azure Active Directory (Azure AD) object and RBAC role to use for the remediation tasks:

A managed identity with the Contributor role
A managed identity with the User Access Administrator role
A service principal with the Contributor role
A service principal with the User Access Administrator role

Answer Area:

Azure Policy effect to use:

Append
EnforceOPAConstraint
EnforceRegoPolicy
Modify

Azure Active Directory (Azure AD) object and RBAC role to use for the remediation tasks:

A managed identity with the Contributor role
A managed identity with the User Access Administrator role
A service principal with the Contributor role
A service principal with the User Access Administrator role

Section:

Explanation:

Box 1: Modify

Modify is used to add, update, or remove properties or tags on a resource during creation or update. A common example is updating tags on resources such as costCenter. Existing non-compliant resources can be remediated with a remediation task. A single Modify rule can have any number of operations. Box 2: A managed identity with the Contributor role

Managed identity

How remediation security works: When Azure Policy runs the template in the deployIfNotExists policy definition, it does so using a managed identity. Azure Policy creates a managed identity for each assignment, but must have details about what roles to grant the managed identity.

Contributor role

The Contributor role grants the required access to apply tags to any entity.

Reference:

https://docs.microsoft.com/en-us/azure/governance/policy/concepts/effects

https://docs.microsoft.com/en-us/azure/governance/policy/how-to/remediate-resources

https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/tag-resources

https://docs.microsoft.com/en-us/azure/governance/policy/concepts/effects#modify

QUESTION 64

HOTSPOT

You have an Azure subscription that contains the resources shown in the following table.

Name	Type	Kind	Location
storage1	Azure Storage account	Storage	East US
storage2	Azure Storage account	StorageV2	East US
Workspace1	Azure Log Analytics workspace	Not applicable	East US
Workspace2	Azure Log Analytics workspace	Not applicable	East US
Hub1	Azure event hub	Not applicable	East US

You create an Azure SQL database named DB1 that is hosted in the East US region.

To DB1, you add a diagnostic setting named Settings1. Settings1 archives SQLInsights to storage1 and sends SQLInsights to Workspace1. For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selections is worth one point.

Hot Area:

Statements	Yes	No
You can add a new diagnostic setting that archives SQLInsights logs to storage2.	○	○
You can add a new diagnostic setting that sends SQLInsights logs to Workspace2.	○	○
You can add a new diagnostic setting that sends SQLInsights logs to Hub1.	○	○

Answer Area:

Statements	Yes	No
You can add a new diagnostic setting that archives SQLInsights logs to storage2.	◉	○
You can add a new diagnostic setting that sends SQLInsights logs to Workspace2.	◉	○
You can add a new diagnostic setting that sends SQLInsights logs to Hub1.	◉	○

Section:
Explanation:
Box 1: Yes
Box 2: Yes
Box 3: Yes
For more information on Azure SQL diagnostics , you can visit the below link
https://docs.microsoft.com/en-us/azure/azure-sql/database/metrics-diagnostic-telemetry-loggingstreaming-export-configure

QUESTION 65
HOTSPOT
You have the Azure resources shown in the following table.

Name	Type	Description
VNET1	Virtual network	Connected to an on-premises network by using ExpressRoute
VM1	Virtual machine	Configured as a DNS server
SQLDB1	Azure SQL Database	Single instance
PE1	Private endpoint	Provides connectivity to SQLDB1
contoso.com	Private DNS zone	Linked to VNET1 and contains an A record for PE1
contoso.com	Public DNS zone	Contains a CNAME record for SQLDB1

You need to design a solution that provides on-premises network connectivity to SQLDB1 through PE1. How should you configure name resolution? To answer, select the appropriate options in the answer area.

Hot Area:

Azure configuration:

Configure VM1 to forward contoso.com to the public DNS zone.
Configure VM1 to forward contoso.com to the Azure-provided DNS at 168.63.129.16.
In VNet1, configure a custom DNS server set to the Azure-provided DNS at 168.63.129.16.

On-premises DNS configuration:

Forward contoso.com to VM1.
Forward contoso.com to the public DNS zone.
Forward contoso.com to the Azure-provided DNS at 168.63.129.16.

Answer Area:

Azure configuration:

Configure VM1 to forward contoso.com to the public DNS zone.
Configure VM1 to forward contoso.com to the Azure-provided DNS at 168.63.129.16.
In VNet1, configure a custom DNS server set to the Azure-provided DNS at 168.63.129.16.

On-premises DNS configuration:

Forward contoso.com to VM1.
Forward contoso.com to the public DNS zone.
Forward contoso.com to the Azure-provided DNS at 168.63.129.16.

Section:
Explanation:

QUESTION 66
HOTSPOT
You plan to migrate on-premises Microsoft SQL Server databases to Azure.
You need to recommend a deployment and resiliency solution that meets the following requirements:
Supports user-initiated backups
Supports multiple automatically replicated instances across Azure regions Minimizes administrative effort to implement and maintain business continuity What should you recommendation? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Hot Area:

Deployment solution:

Azure SQL Managed Instance
SQL Server on Azure Virtual Machines
An Azure SQL Database single database

Resiliency solution:

Auto-failover group
Active geo-replication
Zone-redundant deployment

Answer Area:

Deployment solution:

Azure SQL Managed Instance
SQL Server on Azure Virtual Machines
An Azure SQL Database single database

Resiliency solution:

Auto-failover group
Active geo-replication
Zone-redundant deployment
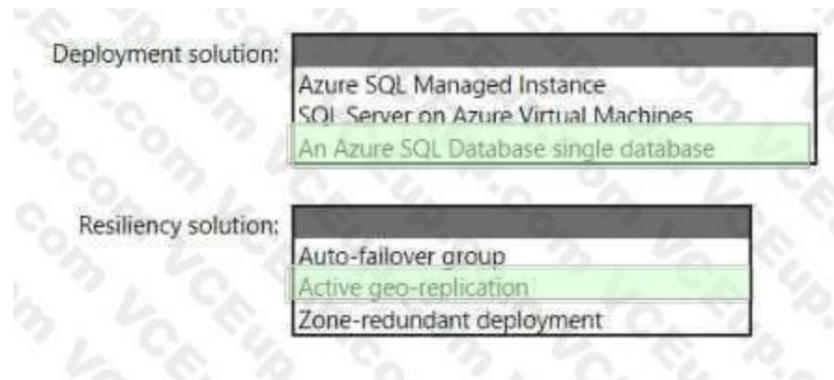
Section:

Explanation:

Box 1: An Azure SQL Database single database.

SQL Server Managed instance versus SQL Server Virtual Machines

Active geo-replication is not supported by Azure SQL Managed Instance.

Box 2: Active geo-replication

Active geo-replication is a feature that lets you to create a continuously synchronized readable secondary database for a primary database. The readable secondary database may be in the same Azure region as the primary, or, more commonly, in a different region. This kind of readable secondary databases are also known as geo-secondaries, or geo-replicas.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/active-geo-replication-overview

QUESTION 67

HOTSPOT

You have an Azure subscription that is linked to an Azure Active Directory Premium Plan 2 tenant The tenant has multi-factor authentication (MFA) enabled for all users.

Name	IP address range	Trusted
NY	192.168.2.0/27	Yes
DC	192.168.1.0/27	No
LA	192.168.3.0/27	No

You have the named locations shown in the following table.

Name	Device operating system	User-risk level	Matching compliance policies
User1	Windows 10	High	None
User2	Windows 10	Medium	None
User3	macOS	Low	None

You have the users shown in the following table.

Name	Assignment	Conditions: Locations	Conditions: User risk	Conditions: Sign-in risk	Access Control: Grant
CA1	All users	Trusted locations	High, Medium	None	Block access
CA2	All users	NY	None	High, Medium	Block access
CA3	All users	LA	None	None	Grant access: Require device to marked as compliant

You plan to deploy the Conditional Access policies shown in the following table.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Statements	Yes	No
To ensure that the conditions in CA1 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection user risk policy .	○	○
To ensure that the conditions in CA2 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection sign-in risk policy.	○	○
To ensure that the conditions in CA3 can be evaluated, you must deploy Microsoft Endpoint Manager.	○	○

Answer Area:

Statements	Yes	No
To ensure that the conditions in CA1 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection user risk policy .	○	○
To ensure that the conditions in CA2 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection sign-in risk policy.	○	○
To ensure that the conditions in CA3 can be evaluated, you must deploy Microsoft Endpoint Manager.	○	○

Section:
Explanation:

QUESTION 68
HOTSPOT
You have an Azure Load Balancer named LB1 that balances requests to five Azure virtual machines.
You need to develop a monitoring solution for LB1. The solution must generate an alert when any of the following conditions are met:
A virtual machine is unavailable.
Connection attempts exceed 50,000 per minute.
Which signal should you include in the solution for each condition? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

An unavailable virtual machine: ▼
Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

More than 50,000 connection attempts per minute: ▼
Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

Answer Area:

An unavailable virtual machine:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

More than 50,000 connection attempts per minute:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count
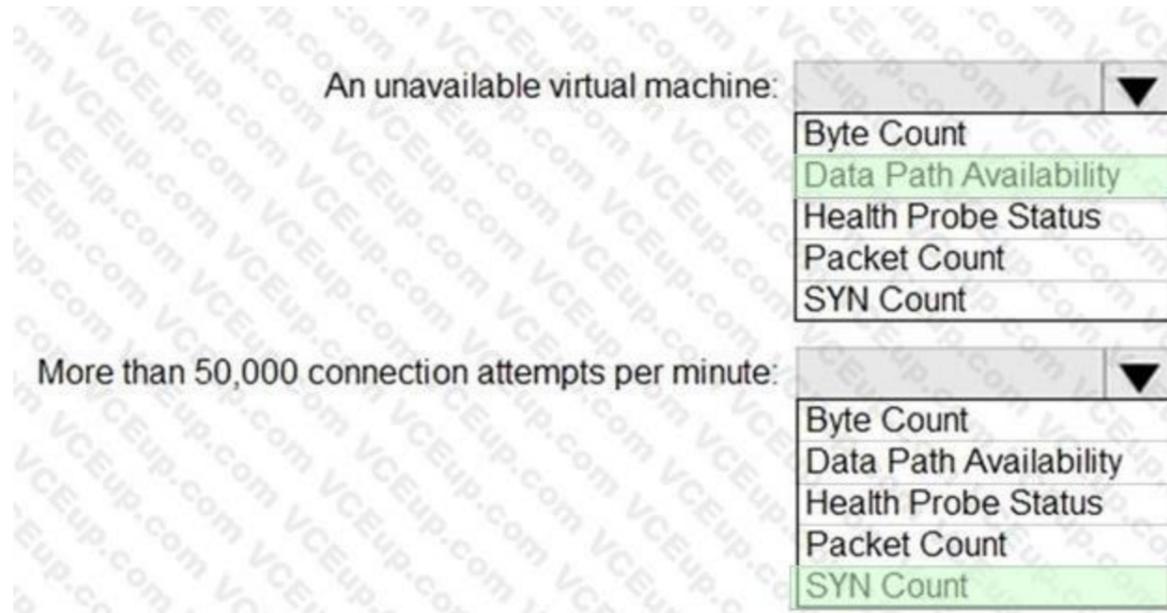
Section:

Explanation:

Box 1: Data path availability

Standard Load Balancer continuously exercises the data path from within a region to the load balancer front end, all the way to the SDN stack that supports your VM. As long as healthy instances remain, the measurement follows the same path as your application's load-balanced traffic. The data path that your customers use is also validated. The measurement is invisible to your application and does not interfere with other operations. Note: Load balancer distributes inbound flows that arrive at the load balancer's front end to backend pool instances. These flows are according to configured load-balancing rules and health probes. The backend pool instances can be Azure Virtual Machines or instances in a virtual machine scale set.

Box 2: SYN count

SYN (synchronize) count: Standard Load Balancer does not terminate Transmission Control Protocol

(TCP) connections or interact with TCP or UDP packet flows. Flows and their handshakes are always between the source and the VM instance. To better troubleshoot your TCP protocol scenarios, you can make use of SYN packets counters to understand how many TCP connection attempts are made.

The metric reports the number of TCP SYN packets that were received.

Reference:

https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-standard-diagnostics

QUESTION 69

You have an Azure subscription. The subscription contains an app that is hosted in the East US, Central Europe, and East Asia regions. You need to recommend a data-tier solution for the app. The solution must meet the following requirements:

Support multiple consistency levels.

Be able to store at least 1 TB of data.

Be able to perform read and write operations in the Azure region that is local to the app instance. What should you include in the recommendation?

A. an Azure Cosmos DB database

B. a Microsoft SQL Server Always On availability group on Azure virtual machines

C. an Azure SQL database in an elastic pool

D. Azure Table storage that uses geo-redundant storage (GRS) replication

Correct Answer: A

Section:

Explanation:

Azure Cosmos DB approaches data consistency as a spectrum of choices. This approach includes more options than the two extremes of strong and eventual consistency. You can choose from five welldefined levels on the consistency spectrum.

With Cosmos DB any write into any region must be replicated and committed to all configured regions within the account.
Reference:
https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels-tradeoffs

QUESTION 70
The accounting department at your company migrates to a new financial accounting software. The accounting department must keep file-based database backups for seven years for compliance purposes. It is unlikely that the backups will be used to recover data.
You need to move the backups to Azure. The solution must minimize costs.
Where should you store the backups?

A. Azure Blob storage that uses the Archive tier

B. Azure SQL Database

C. Azure Blob storage that uses the Cool tier

D. a Recovery Services vault

Correct Answer: A
Section:
Explanation:
Azure Front Door enables you to define, manage, and monitor the global routing for your web traffic by optimizing for best performance and instant global failover for high availability. With Front Door, you can transform your global (multi-region) consumer and enterprise applications into robust, highperformance personalized modern applications, APIs, and content that reaches a global audience with Azure. Front Door works at Layer 7 or HTTP/HTTPS layer and uses anycast protocol with split TCP andMicrosoft's global network for improving global connectivity.
Reference:
https://docs.microsoft.com/en-us/azure/frontdoor/front-door-overview

QUESTION 71
You have an Azure subscription.
You need to deploy an Azure Kubernetes Service (AKS) solution that will use Windows Server 2019 nodes. The solution must meet the following requirements:
Minimize the time it takes to provision compute resources during scale-out operations.
Support autoscaling of Windows Server containers.
Which scaling option should you recommend?

A. cluster autoscaler

B. horizontal pod autoscaler

C. Kubernetes version 1.20.2 or newer

D. Virtual nodes with Virtual Kubelet ACI

Correct Answer: D
Section:
Explanation:
Azure Container Instances (ACI) lets you quickly deploy container instances without additional infrastructure overhead. When you connect with AKS, ACI becomes a secured, logical extension of your AKS cluster. The virtual nodes component, which is based on Virtual Kubelet, is installed in your AKS cluster that presents ACI as a virtual Kubernetes node. Kubernetes can then schedule pods that run as ACI instances through virtual nodes, not as pods on VM nodes directly in your AKS cluster.
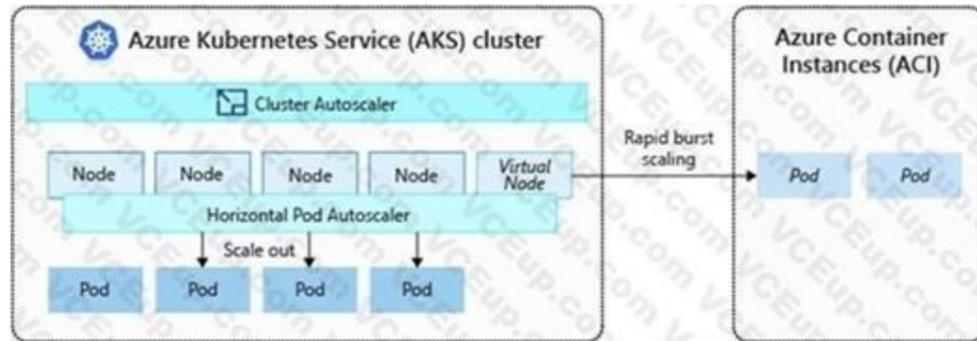
Your application requires no modification to use virtual nodes. Deployments can scale across AKS and ACI and with no delay as cluster autoscaler deploys new nodes in your AKS cluster.

Note: AKS clusters can scale in one of two ways:

The cluster autoscaler watches for pods that can't be scheduled on nodes because of resource constraints. The cluster then automatically increases the number of nodes. The horizontal pod autoscaler uses the Metrics Server in a Kubernetes cluster to monitor the resource demand of pods. If an application needs more resources, the number of pods is automatically increased to meet the demand.

Reference:

https://docs.microsoft.com/en-us/azure/aks/concepts-scale5

QUESTION 72

You plan to automate the deployment of resources to Azure subscriptions.

What is a difference between using Azure Blueprints and Azure Resource Manager templates?

A. Azure Resource Manager templates remain connected to the deployed resources.

B. Only Azure Resource Manager templates can contain policy definitions.

C. Azure Blueprints remain connected to the deployed resources.

D. Only Azure Blueprints can contain policy definitions.

Correct Answer: C
Section:
Explanation:

With Azure Blueprints, the relationship between the blueprint definition (what should be deployed) and the blueprint assignment (what was deployed) is preserved. This connection supports improved tracking and auditing of deployments. Azure Blueprints can also upgrade several subscriptions at once that are governed by the same blueprint.

Reference:

https://docs.microsoft.com/en-us/answers/questions/26851/how-is-azure-blue-prints-differentfrom-resource-m.html

QUESTION 73

You have an Azure subscription that contains an Azure SQL database.

You are evaluating whether to use Azure reservations on the Azure SQL database.

Which tool should you use to estimate the potential savings?

A. The Purchase reservations blade in the Azure portal

B. The Advisor blade in the Azure portal

C. The SQL database blade in the Azure portal

**Correct Answer: A**
Section:
Explanation:

Buy reserved capacity

Sign in to the Azure portal.

Select All services > Reservations.

Select Add and then in the Purchase Reservations pane, select SQL Database to purchase a new reservation for SQL Database. Fill in the required fields. Existing databases in SQL Database and SQL Managed Instance that

match the attributes you select qualify to get the reserved capacity discount. The actual number of databases or managed instances that get the discount depends on the scope and quantity selected.
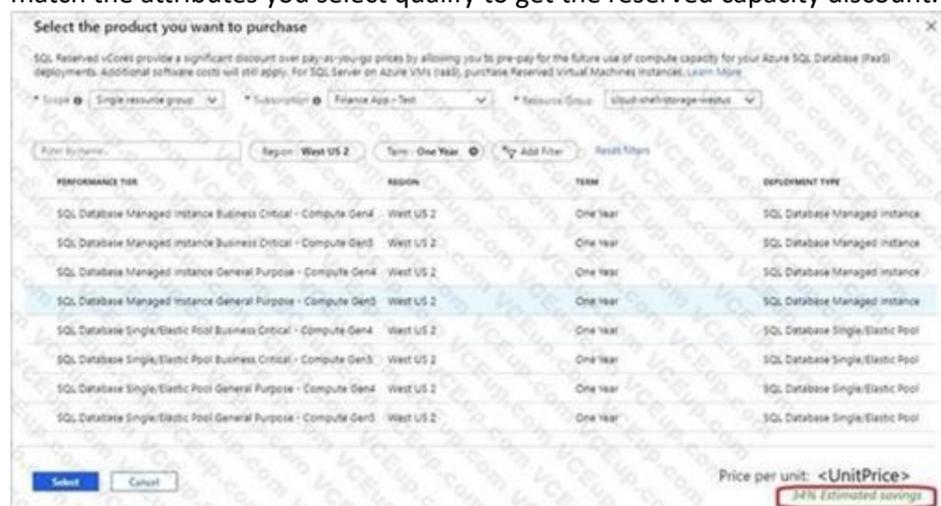
Review the cost of the capacity reservation in the Costs section.
Select Purchase.
Select View this Reservation to see the status of your purchase.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/reserved-capacity-overview

QUESTION 74
You have an Azure subscription that contains an Azure SQL database.
You plan to use Azure reservations on the Azure SQL database.
To which resource type will the reservation discount be applied?

A. vCore compute

B. DTU compute

C. Storage

D. License

Correct Answer: A
Section:
Explanation:
Quantity: The amount of compute resources being purchased within the capacity reservation. The quantity is a number of vCores in the selected Azure region and Performance tier that are being reserved and will get the billing discount. For example, if you run or plan to run multiple databases with the total compute capacity of Gen5 16 vCores in the East US region, then you would specify the quantity as 16 to maximize the benefit for all the databases.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/reserved-capacity-overview

QUESTION 75
You are designing an Azure Cosmos DB solution that will host multiple writable replicas in multiple Azure regions. You need to recommend the strongest database consistency level for the design. The solution must meet the following requirements:
Provide a latency-based Service Level Agreement (SLA) for writes.
Support multiple regions.
Which consistency level should you recommend?

A. bounded staleness

B. strong

C. session

D. consistent prefix

Correct Answer: A
Section:
Explanation:
Each level provides availability and performance tradeoffs. The following image shows the different consistency levels as a spectrum.

Note: The service offers comprehensive 99.99% SLAs which covers the guarantees for throughput, consistency, availability and latency for the Azure Cosmos DB Database Accounts scoped to a single Azure region configured with any of the five Consistency Levels or Database Accounts spanning multiple Azure regions, configured with any of the four relaxed Consistency Levels.
Reference:
https://azure.microsoft.com/en-us/support/legal/sla/cosmos-db/v1_3/
https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels#consistency-levels-andlatency

QUESTION 76
Your company has offices in the United States, Europe, Asia, and Australia.
You have an on-premises app named App1 that uses Azure Table storage. Each office hosts a local instance of App1. You need to upgrade the storage for App1. The solution must meet the following requirements:
Enable simultaneous write operations in multiple Azure regions.
Ensure that write latency is less than 10 ms.
Support indexing on all columns.
Minimize development effort.
Which data platform should you use?

A. Azure SQL Database

B. Azure SQL Managed Instance

C. Azure Cosmos DB

D. Table storage that uses geo-zone-redundant storage (GZRS) replication

Correct Answer: C
Section:
Explanation:

QUESTION 77
You plan to archive 10 TB of on-premises data files to Azure.
You need to recommend a data archival solution. The solution must minimize the cost of storing the data files. Which Azure Storage account type should you include in the recommendation?

A. Standard StorageV2 (general purpose v2)

B. Standard Storage (general purpose v1)

C. Premium StorageV2 (general purpose v2)

D. Premium Storage (general purpose v1)

Correct Answer: A
Section:
Explanation:

Standard StorageV2 supports the Archive access tier, which would be the cheapest solution.
Reference:
https://docs.microsoft.com/en-us/azure/storage/common/storage-introduction

QUESTION 78
You have an Azure subscription.
You need to deploy an Azure Kubernetes Service (AKS) solution that will use Linux nodes. The solution must meet the following requirements:
Minimize the time it takes to provision compute resources during scale-out operations.
Support autoscaling of Linux containers.
Minimize administrative effort.
Which scaling option should you recommend?

A. Virtual Kubelet

B. cluster autoscaler

C. horizontal pod autoscaler

D. AKS virtual nodes

Correct Answer: D
Section:
Explanation:
https://docs.microsoft.com/en-us/azure/aks/virtual-nodes

QUESTION 79
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. You plan to deploy multiple instances of an Azure web app across several Azure regions.
You need to design an access solution for the app. The solution must meet the following replication requirements:
Support rate limiting.
Balance requests between all instances.
Ensure that users can access the app in the event of a regional outage.
Solution: You use Azure Application Gateway to provide access to the app.
Does this meet the goal?

A. Yes

B. No

Correct Answer: B
Section:

QUESTION 80
You need to recommend a solution to deploy containers that run an application. The application has two tiers. Each tier is implemented as a separate Docker Linux-based image. The solution must meet the following requirements:
The front-end tier must be accessible by using a public IP address on port 80.
The backend tier must be accessible by using port 8080 from the front-end tier only.
Both containers must be able to access the same Azure file share.
If a container fails, the application must restart automatically.
Costs must be minimized.
What should you recommend using to host the application?

A. Azure Kubernetes Service (AKS)

B. Azure Service Fabric

C. Azure Container instances

D. Azure Container registries

Correct Answer: C
Section:
Explanation:
Azure Container Instances enables a layered approach to orchestration, providing all of the scheduling and management capabilities required to run a single container, while allowing orchestrator platforms to manage multi-container tasks on top of it.

Because the underlying infrastructure for container instances is managed by Azure, an orchestrator platform does not need to concern itself with finding an appropriate host machine on which to run a single container. Azure Container Instances can schedule both Windows and Linux containers with the same API.

Orchestration of container instances exclusively

Because they start quickly and bill by the second, an environment based exclusively on Azure Container Instances offers the fastest way to get started and to deal with highly variable workloads.

Reference:

https://docs.microsoft.com/en-us/azure/container-instances/container-instances-overview

https://docs.microsoft.com/en-us/azure/container-instances/container-instances-orchestratorrelationship

QUESTION 81
You architect a solution that calculates 3D geometry from height-map data.

You have the following requirements:

Perform calculations in Azure.

Each node must communicate data to every other node.

Maximize the number of nodes to calculate multiple scenes as fast as possible.

Require the least amount of effort to implement.

You need to recommend a solution.

Which two actions should you recommend? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Create a render farm that uses Azure Batch.

B. Enable parallel file systems on Azure.

C. Enable parallel task execution on compute nodes.

D. Create a render farm that uses virtual machine (VM) scale sets.

E. Create a render farm that uses virtual machines (VMs).

Correct Answer: A, C
Section:

QUESTION 82
Your company plans to publish APIs for its services by using Azure API Management.

You discover that service responses include the AspNet-Version header.

You need to recommend a solution to remove AspNet-Version from the response of the published APIs.

What should you include in the recommendation?

A. a new product

B. a modification to the URL scheme

C. a new policy

D. a new revision

Correct Answer: C
Section:
Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/api-management/transform-api

QUESTION 83
You are designing an Azure solution.
The network traffic for the solution must be securely distributed by providing the following features:
HTTPS protocol
Round robin routing
SSL offloading
You need to recommend a load balancing option.
What should you recommend?

A. Azure Load Balancer

B. Azure Traffic Manager

C. Azure Internal Load Balancer (ILB)

D. Azure Application Gateway

Correct Answer: D
Section:
Explanation:
If you are looking for Transport Layer Security (TLS) protocol termination ("SSL offload") or per- HTTP/HTTPS request, application-layer processing, review Application Gateway. Application Gateway is a layer 7 load balancer, which means it works only with web traffic (HTTP,
HTTPS, WebSocket, and HTTP/2). It supports capabilities such as SSL termination, cookie-basedsession affinity, and round robin for load-balancing traffic. Load Balancer load-balances traffic at layer4 (TCP or UDP).
Reference:
https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq

QUESTION 84
You deploy two instances of an Azure web app. One instance is in the East US Azure region and the other instance is in the West US Azure region. The web app uses Azure Blob storage to deliver large files to end users. You need to recommend a solution for delivering the files to the users. The solution must meet the following requirements:
Ensure that the users receive files from the same region as the web app that they access.
Ensure that the files only need to be updated once.
Minimize costs.
What should you include in the recommendation?

A. Azure File Sync

B. Distributed File System (DFS)

C. read-access geo-redundant storage (RA-GRS)

D. geo-redundant storage (GRS)

Correct Answer: C
Section:

QUESTION 85
Your company develops Azure applications.

You need to recommend a solution for the deployment of Azure subscriptions. The solution must meet the following requirements:
What should you include in the recommendation?

A. Provision resource groups.

B. Support deployments across all Azure regions.

C. Create custom role-based access control (RBAC) roles.

D. Provide consistent virtual machine and virtual network configurations.

Correct Answer: D
Section:
Explanation:
Resource groups: You can scope your deployment to a resource group. You use an Azure Resource
Manager template (ARM template) for the deployment.
Regions: If you have a template spec in one region and want to move it to new region, you can export the template spec and redeploy it.
RBAC: Azure role-based access control (Azure RBAC) is the authorization system you use to manage access to Azure resources. To grant access, you assign roles to users, groups, service principals, or managed identities at a particular scope. In addition to using Azure PowerShell or the Azure CLI, you can assign roles using Azure Resource Manager templates. Templates can be helpful if you need to deploy resources consistently and repeatedly
You can setup Virtual machines and virtual network configurations in an Azure Resource Manager template.
Reference:
https://docs.microsoft.com/en-us/azure/governance/blueprints/overview
https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/microsoftresources-move-regions https://docs.microsoft.com/en-us/azure/role-based-access-control/role-assignments-template
https://docs.microsoft.com/en-us/azure/virtual-machines/windows/template-description

QUESTION 86
A company needs a datastore created in Azure for an application. Below are the key requirements for the data store. Ability to store JSON based items
Ability to use SQL like queries on the datastore
Ability to provide low latency access to data items
Which of the following would you consider as the data store?

A. Azure BLOB storage

B. Azure CosmosDB

C. Azure HDInsight

D. Azure Redis

Correct Answer: B
Section:

QUESTION 87
You have to design a Data Engineering solution for your company. The company currently has an Azure subscription. They also have application data hosted in a database on a Microsoft SQL Server hosted in their on-premises data center server. They want to implement the following requirements Transfer transactional data from the on-premises SQL server onto a data warehouse in Azure. Data needs to be transferred every day in the night as a scheduled job A managed Spark cluster needs to be in place for data engineers to perform analysis on the data stored in the SQL data warehouse. Here the data engineers should have the ability to develop notebooks in Scale, R and Python. They also need to have a data lake store in place for the ingestion of data from multiple data sources Which of the following would the use for hosting the data warehouse in Azure?

A. Azure Data Factory

B. Azure Databricks

C. Azure Data Lake Gen2 Storage accounts

D. Azure Synapse Analytics

Correct Answer: D

QUESTION 88
Your company currently has an application that is hosted on their on-premises environment. The application currently connects to two databases in the on-premises environment. The databases are named whizlabdb1 and whizlabdb2. You have to move the databases onto Azure. The databases have to support server-side transactions across both of the databases. Solution: You decide to deploy the databases to an Azure SQL database-managed instance. Would this fulfill the requirement?

A. Yes

B. No

Correct Answer: A
Section:

QUESTION 89
Your company has an on-premises Hyper-V cluster that contains 20 virtual machines. Some of the virtual machines are based on Windows and some in Linux. You have to migrate the virtual machines onto Azure. You have to recommend a solution that would be used to replicate the disks of the virtual machines to Azure. The solution needs to ensure that the virtual machines remain available when the migration of the disks is in progress. You decide to create an Azure storage account and then run AzCopy
Would this fulfill the requirement?

A. Yes

B. No

Correct Answer: B
Section:

QUESTION 90
HOTSPOT
You are designing a data analytics solution that will use Azure Synapse and Azure Data Lake Storage Gen2. You need to recommend Azure Synapse pools to meet the following requirements:
* Ingest data from Data Lake Storage into hash-distributed tables.
* Implement, query, and update data in Delta Lake.
What should you recommend for each requirement? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Ingest data from Data Lake Storage into hash-distributed tables:
- A dedicated SQL pool ▼
  - **A dedicated SQL pool**
  - A serverless Apache Spark pool
  - A serverless SQL pool

Implement, query, and update data in Delta Lake:
- A serverless SQL pool ▼
  - A dedicated SQL pool
  - A serverless Apache Spark pool
  - **A serverless SQL pool**

Answer Area:

Answer Area

Ingest data from Data Lake Storage into hash-distributed tables:

A dedicated SQL pool ▼
A dedicated SQL pool
A serverless Apache Spark pool
A serverless SQL pool

Implement, query, and update data in Delta Lake:

A serverless SQL pool ▼
A dedicated SQL pool
A serverless Apache Spark pool
A serverless SQL pool

Section:
Explanation:

QUESTION 91
You have 100 devices that write performance data to Azure Blob Storage.
You plan to store and analyze the performance data in an Azure SQL database.
You need to recommend a solution to continually copy the performance data to the Azure SQL database.
What should you include in the recommendation?

A. Azure Database Migration Service

B. Azure Data Box

C. Data Migration Assistant (DMA)

D. Azure Data Factory

Correct Answer: D
Section:

QUESTION 92
You need to recommend a data storage solution that meets the following requirements:
* Ensures that applications can access the data by using a REST connection
* Hosts 20 independent tables of varying sizes and usage patterns
* Automatically replicates the data to a second Azure region
* Minimizes costs
What should you recommend?

A. an Azure SQL Database elastic pool that uses active geo-replication

B. tables in an Azure Storage account that use read-access geo-redundant storage (RA-GRS)

C. an Azure SQL database that uses active geo-replication

D. tables in an Azure Storage account that use geo-redundant storage (GRS)

Correct Answer: D
Section:

QUESTION 93
DRAG DROP
You plan to use Azure Storage to store data assets.
You need to identify the procedure to fail over a general-put pose v2 account as part of a disaster recovery plan. The solution must meet the following requirements:
* Apps must be able to access the storage account after a failover.
* You must be able to fail back the storage account to the original location.
* Downtime must be minimized.
Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions		Answer Area
After a failover, configure zone-redundant storage (ZRS) replication for the storage account.		
Before a failover, configure geo-redundant storage (GRS) replication for the storage account.		
Before a failover, configure zone-redundant storage (ZRS) replication for the storage account.		
Initiate a failover.		
After a failover, configure geo-redundant storage (GRS) replication for the storage account.		

Correct Answer:

Actions		Answer Area
After a failover, configure zone-redundant storage (ZRS) replication for the storage account.		Before a failover, configure zone-redundant storage (ZRS) replication for the storage account.
Before a failover, configure geo-redundant storage (GRS) replication for the storage account.		Initiate a failover.
		After a failover, configure geo-redundant storage (GRS) replication for the storage account.

Section:
Explanation:
Before a failover, configure zone-redundant storage (ZRS) replication for the storage account.
Initiate a failover.
After a failover, configure geo-redundant storage (GRS) replication for the storage account.