**Which of the following are valid benefits of using the AWS Cloud? (Select TWO.)**

**Explanation**

The ability to provision IT resources quickly and easily and also globally are valid benefits of using the AWS cloud. These are covered in AWS’ 6 advantages of cloud which include “Increase speed and agility” and “Go global in minutes”.

1} Fast provisioning of IT resources"

2} Ability to go global quickly

**A company plans to deploy a relational database on AWS. The IT department will perform database administration. Which service should the company use?**

#### Explanation

A self-managed relational database can be installed on Amazon EC2. When using this deployment you can choose the operating system and instance type that suits your needs and then install and manage any database software you require.

**CORRECT:**"Amazon EC2" is the correct answer.

**According to the AWS shared responsibility model, which of the following is a responsibility of AWS?**

#### Explanation

AWS are responsible for updating firmware on the physical Amazon EC2 host servers. Customers are then responsible for any patching of the EC2 operating system and any installed software.

**CORRECT:**"Updating the firmware on the underlying EC2 hosts" is the correct answer.

**A company runs a batch job on an Amazon EC2 instance and it takes 6 hours to complete. The workload is expected to double in volume each month with a proportional increase in processing time.**

**What is the most efficient cloud architecture to address the growing workload?**

#### Explanation

The most efficient option is to use multiple EC2 instances and distribute the workload across them. This is an example of horizontal scaling and will allow the workload to keep growing in size without any issue and without increasing the overall processing timeframe.

**CORRECT:**"Run the batch workload in parallel across multiple Amazon EC2 instances" is the correct answer.

Question 5: **Correct**

**What can a Cloud Practitioner use to categorize and track AWS costs by project?**

#### Explanation

Cost allocation tags can be used to tag and categorize your resources and then run view the billing in Cost Explorer and the cost allocation report. For example you can tag your resources by department or project and then view costs attributed to the resources used by those groups.

**CORRECT:**"Cost Allocation Tags" is the correct answer.

**Which of the following is a sole responsibility of AWS?**

#### Explanation

According to the shared responsibility model, AWS is responsible to the management of all AWS global infrastructure components including Regions, Availability Zones, Edge locations, Regional Edge Caches, and Local Zones.

**CORRECT:**"Availability Zone management"

**A Cloud Practitioner needs a tool that can assist with viewing and managing AWS costs and usage over time. Which tool should the Cloud Practitioner use?**

#### Explanation

AWS Cost Explorer has an easy-to-use interface that lets you visualize, understand, and manage your AWS costs and usage over time. AWS Cost Explorer provides you with a set of default reports that you can use as the starting place for your analysis. From there, use the filtering and grouping capabilities to dive deeper into your cost and usage data and generate custom insights.

**CORRECT:**"AWS Cost Explorer" is the correct answer.

A company plans to use reserved instances to get discounted pricing for Amazon EC2 instances. The company may need to change the EC2 instance type during the one year period.

**Which instance purchasing option is the MOST cost-effective for this use case?**

#### Explanation

A convertible reserved instance enables you to exchange one or more Convertible Reserved Instances for another Convertible Reserved Instance with a different configuration, including instance family, operating system, and tenancy.

**CORRECT:**"Convertible Reserved Instances" is the correct answer.

**An Amazon Virtual Private Cloud (VPC) can include multiple:**

#### Explanation

An Amazon VPC includes multiple Availability Zones. Within a VPC you can create subnets in each AZ that is available in the Region and distribute your resources across these subnets for high availability.

**CORRECT:**"Availability Zones"

**Which AWS services can a company use to gather information about activity in their AWS account? (Select TWO.)**

#### Explanation

Amazon CloudWatch is a performance monitoring service. AWS services send metrics about their utilization to CloudWatch which collects the metrics. Additionally, CloudWatch collects metrics about account activity such as billing information which can also be viewed.

AWS CloudTrail is an auditing service that monitors API activity in your account. Whenever you perform any operation in the account this results in an API action and this information is recorded to create an audit trail.

**CORRECT:**"AWS CloudTrail"

**Which AWS service or feature can assist with protecting a website that is hosted outside of AWS?**

AWS WAF can be used to protect on-premises resources if they are deployed behind an Application Load Balancer (ALB). In this scenario the on-premises website servers are added to a target group by IP address. The ALB has a WAF WebACL attached to it and distributes connections to the on-premises website.

**CORRECT:**"AWS Web Application Firewall (WAF)"

**Which AWS service provides a managed software version control system?**

#### Explanation

AWS CodeCommit is a fully-managed source control service that hosts secure Git-based repositories. It makes it easy for teams to collaborate on code in a secure and highly scalable ecosystem.

CodeCommit eliminates the need to operate your own source control system or worry about scaling its infrastructure. You can use CodeCommit to securely store anything from source code to binaries, and it works seamlessly with your existing Git tools.

**CORRECT:**"AWS CodeCommit" is the correct answer.

**Which benefits can a company gain by deploying a relational database on Amazon RDS instead of Amazon EC2? (Select TWO.)**

#### Explanation

Two of the benefits of using a managed Amazon RDS service instead of a self-managed database on EC2 are that you get automated backups and automatic software patching.

**CORRECT:**"Automated backups" is a correct answer.

**CORRECT:**"Software patching" is also a correct answer.

**Which of the following represents a value proposition for using the AWS Cloud?**

#### Explanation

With AWS you can pay for what you use and there is no requirement to enter into long term contracts. However, there are opportunities to gain large discounts by committing to 1 or 3 years contracts for reserved instances and savings plans.

**CORRECT:**"It is not necessary to enter into long term contracts" is the correct answer.

**A company has many underutilized compute resources on-premises. Which AWS Cloud feature will help resolve this issue?**

#### Explanation

Elasticity can resolve the issue of underutilization as you can easily and automatically adjust the resource allocations for your compute resources based on actual utilization. This ensures that you have the right amount of resources and do not pay for more than you need.

**CORRECT:**"Elasticity"

**A user is planning to launch three EC2 instances behind a single Elastic Load Balancer. The deployment should be highly available. How should the user achieve this?**

#### Explanation

To make the deployment highly available the user should launch the instances across multiple Availability Zones in a single AWS Region. Elastic Load Balancers can only serve targets in a single Region so it is not possible to deploy across Regions.

**CORRECT:**"Launch the instances across multiple Availability Zones in a single AWS Region" is the correct answer

**Which AWS service can a team use to deploy infrastructure on AWS using familiar programming languages?**

#### Explanation

The AWS Cloud Development Kit (AWS CDK) is an open source software development framework to define cloud application resources using familiar programming languages. With AWS CDK you can stick to using programming languages that are familiar to you and have infrastructure deployed using AWS CloudFormation.

**CORRECT:**"AWS Cloud Development Kit (AWS CDK)"

**Which of the following AWS services are compute services? (Select TWO.)**

#### Explanation

AWS Batch enables developers, scientists, and engineers to easily and efficiently run hundreds of thousands of batch computing jobs on AWS.

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

**CORRECT:**"AWS Batch" is a correct answer.

**CORRECT:**"AWS Elastic Beanstalk" is also a correct answer

**A company is migrating a monolithic application that does not scale well into the cloud and refactoring it into a microservices architecture.**

**Which best practice of the AWS Well-Architected Framework does this plan relate to?**

#### Explanation

A microservices architecture will help ensure that each component of the application can scale independently and be updated independently. Loose coupling further assists as it places reduces the dependencies between systems and ensures that messages and data being passed between application components can be reliably and durably stored.

**CORRECT:**"Implement loosely coupled services" is the correct answer.

**Which tasks require the use of the AWS account root user? (Select TWO.)**

#### Explanation

Some tasks can only be performed by the root user of an AWS account. This includes changing the account name and changing AWS support plans. For more information view the AWS article referenced below.

**CORRECT:**"Changing the account name" is a correct answer.

**CORRECT:**"Changing AWS Support plans" is also a correct answer.

**For what purpose would a Cloud Practitioner access AWS Artifact?**

#### Explanation

AWS Artifact is your go-to, central resource for compliance-related information that matters to you. It provides on-demand access to AWS’ security and compliance reports and select online agreements.

Reports available in AWS Artifact include our Service Organization Control (SOC) reports, Payment Card Industry (PCI) reports, and certifications from accreditation bodies across geographies and compliance verticals that validate the implementation and operating effectiveness of AWS security controls.

**CORRECT:**"Gain access to AWS security and compliance documents" is the correct answer.

**A customer needs to determine Total Cost of Ownership (TCO) for a workload that requires physical isolation. Which hosting model should be accounted for?**

#### Explanation

An Amazon EC2 Dedicated Host is a physical server with EC2 instance capacity fully dedicated to your use. Dedicated Hosts allow you to use your existing per-socket, per-core, or per-VM software licenses, including Windows Server, Microsoft SQL Server, SUSE, and Linux Enterprise Server.

Note that dedicated hosts can be considered “hosting model” as it determines that actual underlying infrastructure that is used for running your workload. All of the other answers are simply pricing plans for shared hosting models.

**CORRECT:**"Dedicated Hosts" is the correct answer.

**A Cloud Practitioner is developing a new application and wishes to integrate features of AWS services directly into the application.**

**Which of the following is the BEST tool for this purpose?**

#### Explanation

A software development kit (SDK) is a collection of software development tools in one installable package. AWS provides SDKs for various programming languages and these can be used for integrating the features of AWS services directly into an application.

**CORRECT:**"AWS Software Development Kit"

**A company is deploying a new workload and software licensing requirements dictate that the workload must be run on a specific, physical server.**

**Which Amazon EC2 instance deployment option should be used?**

An Amazon EC2 Dedicated Host is a physical server fully dedicated for your use, so you can help address corporate compliance requirements. Amazon EC2 Dedicated Hosts allow you to use your eligible software licenses from vendors such as Microsoft and Oracle on Amazon EC2, so that you get the flexibility and cost effectiveness of using your own licenses, but with the resiliency, simplicity and elasticity of AWS

**CORRECT:**"Dedicated Hosts" is the correct answer.

**A Cloud Practitioner anticipates an increase in application traffic at a future date and time when a sales event will take place. How can the Cloud Practitioner configure Amazon EC2 Auto Scaling to ensure the right number of Amazon EC2 instances are available ahead of the event?**

#### Explanation

Scheduled scaling helps you to set up your own scaling schedule according to predictable load changes. For example, let's say that every week the traffic to your web application starts to increase on Wednesday, remains high on Thursday, and starts to decrease on Friday. You can configure a schedule for Amazon EC2 Auto Scaling to increase capacity on Wednesday and decrease capacity on Friday.

**CORRECT:**"Configure a scheduled scaling policy" is the correct answer.

**Which type of credential should a Cloud Practitioner use for programmatic access to AWS resources from the AWS CLI/API?**

#### Explanation

Access keys are long-term credentials for an IAM user or the AWS account root user. You can use access keys to sign programmatic requests to the AWS CLI or AWS API (directly or using the AWS SDK).

Access keys consist of two parts: an access key ID (for example, AKIAIOSFODNN7EXAMPLE) and a secret access key (for example, wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY).

Like a user name and password, you must use both the access key ID and secret access key together to authenticate your requests. Manage your access keys as securely as you do your user name and password.

**CORRECT:**"Access keys" is the correct answer.

**A large company is interested in avoiding long-term contracts and moving from fixed costs to variable costs.**

**What is the value proposition of AWS for this company?**

#### Explanation

Pay-as-you-go pricing helps companies move away from fixed costs to variable costs in a model in which they only pay for what they actually use. There are no fixed term contracts with AWS so that requirement is also met.

**CORRECT:**"Pay-as-you-go pricing" is the correct answer.

**A Cloud Practitioner needs to monitor a new Amazon EC2 instances CPU and network utilization. Which AWS service should be used?**

#### Explanation

Amazon CloudWatch is a performance monitoring service. AWS services send metrics about their utilization to CloudWatch which collects the metrics. You can then view the results in CloudWatch and configure alarms.

**CORRECT:**"Amazon CloudWatch" is the correct answer.

**A company has multiple AWS accounts and is using AWS Organizations with consolidated billing. Which advantages will they benefit from? (Select TWO.)**

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts. With consolidated billing you get:

- One bill for multiple accounts.

- Easy tracking or charges across accounts.

- Combined usage across accounts and sharing of volume pricing discounts, reserved instance discounts and savings plans.

- No extra fee.

**CORRECT:**"They will receive one bill for the accounts in the Organization" is a correct answer.

**CORRECT:**"They may benefit from lower unit pricing for aggregated usage" is also a correct answer.

**An individual IAM user must be granted access to an Amazon S3 bucket using a bucket policy. Which element in the S3 bucket policy should be updated to define the user account for which access will be granted?**

#### Explanation

The Principal element specifies the user, account, service, or other entity that is allowed or denied access to a resource. The bucket policy below has a Principal element set to \* which is a wildcard meaning any user. To grant access to a specific IAM user the following format can be used:

"Principal":{"AWS":"arn:aws:iam::AWSACCOUNTNUMBER:user/username"}

**CORRECT:**"Principal" is the correct answer.

**An application uses a PostgreSQL database running on a single Amazon EC2 instance. A Cloud Practitioner has been asked to increase the availability of the database so there is automatic recovery in the case of a failure.**

**Which tasks can the Cloud Practitioner take to meet this requirement?**

#### Explanation

Moving the database to Amazon RDS means that the database can take advantage of the built-in Multi-AZ feature. This feature creates a standby instance in another Availability Zone and synchronously replicates to it. In the event of a failure that affects the primary database an automatic failover can occur and the database will become functional on the standby instance.

**CORRECT:**"Migrate the database to Amazon RDS and enable the Multi-AZ feature" is the correct answer.

**Which of the following AWS features or services can be used to provide root storage volumes for Amazon EC2 instances?**

#### Explanation

The Amazon Elastic Block Store (EBS) provides block-based storage volumes for Amazon EC2 instances. Root volumes are where the operating system is installed and can be either EBS volumes or instance store volumes.

**CORRECT:**"Amazon Elastic Block Store (EBS)" is the correct answer.

**Which of the following will help a user determine if they need to request an Amazon EC2 service limit increase?**

#### Explanation

AWS Trusted Advisor is an online tool that provides you real time guidance to help you provision your resources following AWS best practices. Trusted Advisor checks help optimize your AWS infrastructure, improve security and performance, reduce your overall costs, and monitor service limits.

**CORRECT:**"AWS Trusted Advisor" is the correct answer.

**What is the best practice for managing AWS IAM access keys?**

#### Explanation

It is a security best practice to rotate access keys regularly. This practice ensures that if access keys are compromised the security exposure is mitigated.

**CORRECT:**"Customers should rotate access keys regularly" is the correct answer.

**What are AWS Identity and Access Management (IAM) access keys used for?**

#### Explanation

Access keys are long-term credentials for an IAM user or the AWS account root user. You can use access keys to sign programmatic requests to the AWS CLI or AWS API (directly or using the AWS SDK).

Access keys consist of two parts: an access key ID (for example, AKIAIOSFODNN7EXAMPLE) and a secret access key (for example, wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY).

Like a user name and password, you must use both the access key ID and secret access key together to authenticate your requests. Manage your access keys as securely as you do your user name and password.

**CORRECT:**"Making programmatic calls to AWS from AWS APIs" is the correct answer.

**What is one method of protecting against distributed denial of service (DDoS) attacks in the AWS Cloud?**

#### Explanation

Some forms of DDoS mitigation are included automatically with AWS services. You can further improve your DDoS resilience by using an AWS architecture with specific services and by implementing additional best practices. Using a firewall with AWS resources is recommended to reduce the attack surface of your services which can mitigate some DDoS attacks.

**CORRECT:**"Configure a firewall in front of resources" is the correct answer.

**Which of the following deployments involves the reliability pillar of the AWS Well-Architected Framework?**

#### Explanation

An Amazon Relational Database Service (RDS) deployment across multiple availability zones is a good example of using the reliability pillar of the AWS Well-Architected Framework. The specific design principle being followed here is “Automatically recover from failure”.

**CORRECT:**"Amazon RDS Multi-AZ deployment" is the correct answer.

**What advantages does a database administrator obtain by using the Amazon Relational Database Service (RDS)?**

#### Explanation

Amazon RDS is a managed relational database service on which you can run several types of database software. The service is managed so this reduces the database administration tasks an administrator would normally undertake. The managed service includes hardware provisioning, database setup, patching and backups.

**CORRECT:**"RDS simplifies relational database administration tasks" is the correct answer.

**A company is deploying an application on Amazon EC2 that requires low-latency access to application components in an on-premises data center. Which AWS service or resource can the company use to extend their existing VPC to the on-premises data center?**

#### Explanation

AWS Outposts is a fully managed service that offers the same AWS infrastructure, AWS services, APIs, and tools to virtually any datacenter, co-location space, or on-premises facility for a truly consistent hybrid experience. With AWS Outposts you can extend your VPC into the on-premises data center as in the following diagram:

**CORRECT:**"AWS Outposts" is the correct answer.

**How much data can a company store in the Amazon S3 service?**

#### Explanation

The Amazon Simple Storage Service (S3) offers virtually unlimited storage. The total volume of data and number of objects you can store are unlimited. Individual Amazon S3 objects can range in size from a minimum of 0 bytes to a maximum of 5 terabytes. The largest object that can be uploaded in a single PUT is 5 gigabytes.

**CORRECT:**"Virtually unlimited" is the correct answer.

**Which of the following statements best describes the concept of agility in relation to cloud computing on AWS? (Select TWO.)**

#### Explanation

In a cloud computing environment, new IT resources are only a click away, which means that you reduce the time to make those resources available to your developers from weeks to just minutes. This results in a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

**CORRECT:**"The ability to experiment quickly" is a correct answer.

**CORRECT:**"The speed at which AWS resources can be created" is also a correct answer

**Which design principles are enabled by the AWS Cloud to improve the operation of workloads? (Select TWO.)**

#### Explanation

Loose coupling is when you break systems down into smaller components that are loosely coupled together. This reduces interdependencies between systems components. This is achieved in the cloud using messages buses, notification and messaging services.

Removing single points of failure ensures fault tolerance and high availability. This is easily achieved in the cloud as the architecture and features of the cloud support the implementation of highly available and fault tolerant systems.

**CORRECT:**"Loose coupling" is a correct answer.

**CORRECT:**"Remove single points of failure" is also a correct answer.

**A company is deploying a new web application in a single AWS Region that will be used by users globally.**

**Which AWS services will assist with lowering latency and improving transfer speeds for the global users? (Select TWO.)**

#### Explanation

Amazon CloudFront is a content delivery network (CDN) that caches content around the world for lower latency access. AWS Global Accelerator enables access to your application by leveraging the same Edge Locations as CloudFront and routing connections across the AWS global network.

Both of these services assist with lowering latency and improving transfer speeds for users who are distributed around the world.

**CORRECT:**"AWS Global Accelerator" is a correct answer.

**CORRECT:**"Amazon CloudFront" is also a correct answer.

**A company must provide access to AWS resources for their employees. Which security practices should they follow? (Select TWO.)**

#### Explanation

There are a several security best practices for AWS IAM that are listed in the document shared below. Enabling multi-factor authentication is a best practice to require a second factor of authentication when logging in. Another best practice is to grant least privilege access when configuring users and password policies.

**CORRECT:**"Enable multi-factor authentication for users" is a correct answer.

**CORRECT:**"Create IAM policies based on least privilege principles" is also a correct answer.

**Which tasks can a user complete using the AWS Cost Management tools? (Select TWO.)**

#### Explanation

The AWS Cost Management tools includes services, tools, and resources to organize and track cost and usage data, enhance control through consolidated billing and access permissions, enable better planning through budgeting and forecasts, and further lower costs with resources and pricing optimizations.

**CORRECT**: "Automatically terminate AWS resources if budget thresholds are exceeded.” Is a correct answer. Within the AWS Budgets service you can use AWS Budgets Actions to automatically terminate certain resources.

**CORRECT:**"Create budgets and receive notifications if current or forecasted usage exceeds the budgets" is also a correct answer.

**A company is planning to deploy an application with a relational database on AWS. The application layer requires access to the database instance’s operating system in order to run scripts.**

**The company prefer to keep management overhead to a minimum. Which deployment should be used for the database?**

#### Explanation

The company would like to keep management overhead to a minimum so RDS would be good to meet that requirement. However, with RDS you cannot access the operating system so the requirement for running scripts on the OS rules RDS out. Therefore, the next best solution is to deploy on an Amazon EC2 instances as the other options presented are unsuitable for a relational database.

**CORRECT:**"Amazon EC2" is the correct answer.

**A company needs to publish messages to a thousand of subscribers simultaneously using a push mechanism.**

**Which AWS service should the company use?**

#### Explanation

Amazon SNS is a publisher/subscriber notification service that uses a push mechanism to publish messages to multiple subscribers. Amazon SNS enables you to send messages or notifications directly to users with SMS text messages to over 200 countries, mobile push on Apple, Android, and other platforms or email (SMTP).

**CORRECT:**"Amazon Simple Notification Service (Amazon SNS)" is the correct answer.

**A user needs to identify underutilized Amazon EC2 instances to reduce costs.**

**Which AWS service or feature will meet this requirement?**

#### Explanation

AWS Trusted Advisor offers a rich set of best practice checks and recommendations across five categories: cost optimization, security, fault tolerance, performance, and service limits.

The Trusted Advisor “low utilization Amazon EC2 instances” check, checks the Amazon Elastic Compute Cloud (Amazon EC2) instances that were running at any time during the last 14 days and alerts you if the daily CPU utilization was 10% or less and network I/O was 5 MB or less on 4 or more days.

**CORRECT:**"AWS Trusted Advisor" is the correct answer.

**A company is deploying a MySQL database on AWS. The database must easily scale and have automatic backup enabled.**

**Which AWS service should the company use?**

#### Explanation

Amazon Aurora is a relational database that is compatible with MySQL and PostgreSQL database engines. Aurora is extremely fast and scales up to 128 TB. You can also deploy replicas for read scaling within and across Regions. Aurora also offers automated backups.

**CORRECT:**"Amazon Aurora" is the correct answer.

**Which AWS Cloud service provides recommendations on how to optimize performance for AWS services?**

#### Explanation

AWS Trusted Advisor can improve the performance of your service by checking your service limits, ensuring you take advantage of provisioned throughput, and monitoring for overutilized instances.

**CORRECT:**"AWS Trusted Advisor" is the correct answer.

**A website has a global customer base and users have reported poor performance when connecting to the site.**

**Which AWS service will improve the customer experience by reducing latency?**

#### Explanation

Amazon CloudFront is a fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency, high transfer speeds, all within a developer-friendly environment.

**CORRECT:**"Amazon CloudFront" is the correct answer.

**Which resource should a new user on AWS use to get help with deploying popular technologies based on AWS best practices, including architecture and deployment instructions?**

#### Explanation

Quick Starts are built by Amazon Web Services (AWS) solutions architects and partners to help you deploy popular technologies on AWS, based on AWS best practices for security and high availability. These accelerators reduce hundreds of manual procedures into just a few steps, so you can build your production environment quickly and start using it immediately.

Each Quick Start includes AWS CloudFormation templates that automate the deployment and a guide that discusses the architecture and provides step-by-step deployment instructions.

**CORRECT:**"AWS Quick Starts" is the correct answer.

**A Cloud Practitioner requires point-in-time recovery (PITR) for an Amazon DynamoDB table. Who is responsible for configuring and performing backups?**

#### Explanation

Point-in-time recovery (PITR) provides continuous backups of your DynamoDB table data. When enabled, DynamoDB maintains incremental backups of your table for the last 35 days until you explicitly turn it off. It is a customer responsibility to enable PITR on and AWS is responsible for actually performing the backups.

**CORRECT:**"The customer is responsible for configuring and AWS is responsible for performing backups" is the correct answer.

**When running applications in the AWS Cloud, which common tasks can AWS manage on behalf of their customers? (Select TWO.)**

#### Explanation

With AWS managed services you can reduce your time spent performing common IT tasks. With services such as Amazon RDS, AWS will patch the database host operating system and database software and perform patch management activities.

**CORRECT:**"Patching database software" is a correct answer.

**CORRECT:**"Taking a backup of a database" is also a correct answer.

**AWS are able to continually reduce their pricing due to**

#### Explanation

By using cloud computing, you can achieve a lower variable cost than you can get on your own. Because usage from hundreds of thousands of customers is aggregated in the cloud, providers such as AWS can achieve higher economies of scale, which translates into lower pay as-you-go prices.

**CORRECT:**"economies of scale" is the correct answer.

**How does the AWS cloud increase the speed and agility of execution for customers? (Select TWO.)**

#### Explanation

The ability to quickly provision resources on AWS is a good example of speed and agility. On AWS the resources are readily available and can be deployed extremely quickly. Scalable compute capacity is another example as it gives you the agility to easily reconfigure your resources with more or less capacity as is required.

**CORRECT:**"Fast provisioning of resources" is a correct answer.

**CORRECT:**"Scalable compute capacity" is also a correct answer.

**A company is designing a new service that must align with the operational excellence pillar of the AWS Well-Architected Framework.**

**Which design principles should the company follow? (Select TWO.)**

#### Explanation

AWS Well-Architected helps cloud architects build secure, high-performing, resilient, and efficient infrastructure for their applications and workloads. There are 5 pillars and under the operational excellence pillar the following best practices are recommended:

• Perform operations as code

• Make frequent, small, reversible changes

• Refine operations procedures frequently

• Anticipate failure

• Learn from all operational failures

**CORRECT:**"Anticipate failure" is a correct answer.

**CORRECT:**"Perform operations as code" is also a correct answer.

**Customers using AWS services must patch operating systems on which of the following services?**

#### Explanation

Amazon EC2 is an infrastructure as a service (IaaS) solution. This means the underlying hardware and software layer for running a virtual server are managed for you. As a customer you must then manage the operating system and any software you install. This includes installing patches on the operating system as part of regular maintenance activities.

**CORRECT:**"Amazon EC2" is the correct answer.

**A company is launching a new website which is expected to have highly variable levels of traffic. The website will run on Amazon EC2 and must be highly available.**

**What is the MOST cost-effective approach?**

#### Explanation

The most cost-effective approach for ensuring the website is highly available on Amazon EC2 instances is to use an Amazon EC2 Auto Scaling group. This will ensure that the appropriate number of instances is always available to service the demand. An Elastic Load Balancer can be placed in front of the instances to distribute incoming connections.

**CORRECT:**"Create an Amazon EC2 Auto Scaling group and configure an Elastic Load Balancer" is the correct answer.

**Which of the following can an AWS customer use to launch a new ElastiCache cluster? (Select TWO.)**

#### Explanation

There are several ways to launch resources in AWS. You can use the AWS Management Console or Command Line Interface (CLI) or you can automate the process by using tools such as AWS CloudFormation.

With AWS CloudFormation you can deploy infrastructure such as Amazon ElastiCache clusters by defining your desired configuration state in code using a template file written in JSON or YAML. CloudFormation will then deploy the resources by creating a Stack according to the template file.

**CORRECT:**"AWS CloudFormation" is a correct answer.

**CORRECT:**"AWS Management Console" is also a correct answer.

**Which AWS feature can be used to launch a pre-configured Amazon Elastic Compute Cloud (EC2) instance?**

#### Explanation

An Amazon Machine Image (AMI) provides the information required to launch an instance. You must specify an AMI when you launch an instance. You can launch multiple instances from a single AMI when you need multiple instances with the same configuration. You can use different AMIs to launch instances when you need instances with different configurations.

**CORRECT:**"Amazon Machine Image (AMI)" is the correct answer.

**A company is planning to move a number of legacy applications to the AWS Cloud. The solution must be cost-effective. Which approach should the company take?**

#### Explanation

The most cost-effective solution that works is to use Amazon EC2 instances that are right-sized with the most optimum instance types. Right-sizing is the process of ensuring that the instance type selected for each application provides the right amount of resources for the application.

**CORRECT:**"Rehost the applications on Amazon EC2 instances that are right-sized" is the correct answer.

**Which AWS service can a company use to discover and protect sensitive data that is stored in Amazon S3 buckets.**

#### Explanation

Amazon Macie is a fully managed data security and data privacy service that uses machine learning and pattern matching to discover and protect your sensitive data in AWS. Amazon Macie automates the discovery of sensitive data at scale and lowers the cost of protecting your data.

Macie automatically provides an inventory of Amazon S3 buckets including a list of unencrypted buckets, publicly accessible buckets, and buckets shared with AWS accounts outside those you have defined in AWS Organizations.

Then, Macie applies machine learning and pattern matching techniques to the buckets you select to identify and alert you to sensitive data, such as personally identifiable information (PII).

**CORRECT:**"Amazon Macie" is the correct answer.

**A company is deploying an application in the AWS Cloud. How can they secure the application? (Select TWO.)**

#### Explanation

In this scenario the company must apply best practice principals for securing their application. Enabling encryption for data at rest is definitely a good practice and data in transit should also be encrypted where possible as well. It is also a good practice to limit access privileges according to the principal of least privilege. This means limiting privileges to those required to perform a specific role.

**CORRECT:**"Enable encryption for the application data at rest" is a correct answer.

**CORRECT:**"Limit access privileges according to the principal of least privilege" is also a correct answer.

**A company uses Amazon EC2 instances to run applications that are dedicated to different departments. The company needs to break out the costs of these applications and allocate them to the relevant department. The EC2 instances run in a single VPC.**

**How can the company achieve these requirements?**

#### Explanation

The company should create cost allocation tags that specify the department and assign them to resources. These tags must be activated so they are visible in the cost allocation report. Once this is done and a monthly cost allocation report has been configured it will be easy to monitor the costs for each department.

**CORRECT:**"Create tags by department on the instances and then run a cost allocation report" is the correct answer.

**PART 2 PHASE 2**

A company has a global user base and needs to deploy AWS services that can decrease network latency for their users. Which services may assist? (Select TWO.)

#### Explanation

Amazon CloudFront is a content delivery network (CDN) that caches media assets such as files, photos, and videos in Edge locations around the world. This gets your content closer to the user base which decreases latency.

AWS Global Accelerator is a service that can direct users to the nearest AWS Region that contains an 0d endpoint for an application. The service utilizes Edge locations to decrease latency and then forwards all traffic on the AWS global network which also decreases latency.

**CORRECT:**"Amazon CloudFront" is a correct answer.

**CORRECT:**"AWS Global Accelerator" is also a correct answer.

Question 2: **Incorrect**

Which benefits can a company immediately realize using the AWS Cloud? (Select TWO.)

#### Explanation

A couple of the benefits that companies will realize immediately when using the AWS Cloud are increased agility and a change from capital expenditure to variable operational expenditure.

Agility is enabled through the flexibility of cloud services and the ease with which applications can be deployed, scaled, and managed. When using cloud services you pay for what you use and this is a variable, operational expense which can be beneficial to company cashflow.

**CORRECT:**"Capital expenses are replaced with variable expenses" is a correct answer.

**CORRECT:**"Increased agility" is also a correct answer.

Which of the following should be used to improve the security of access to the AWS Management Console? (Select TWO.)

#### Explanation

For extra security, AWS recommends that you require multi-factor authentication (MFA) for all users in your account. With MFA, users have a device that generates a response to an authentication challenge.

Both the user's credentials (something you know) and the device-generated response (something you have) are required to complete the sign-in process. If a user's password or access keys are compromised, your account resources are still secure because of the additional authentication requirement.

Additionally, strong password policies should be used to enforce measures including minimum password length, complexity, and password reuse restrictions.

**CORRECT:**"AWS Multi-Factor Authentication (AWS MFA)" is a correct answer.

**CORRECT:**"Strong password policies" is also a correct answer.

How can an organization gain access to compliance reports natively through the AWS console?

#### Explanation

AWS Artifact is your go-to, central resource for compliance-related information that matters to you. You can access the AWS Artifact console to use AWS Artifact to review, accept, and track the status of AWS agreements

**CORRECT:**"AWS Artifact" is the correct answer (as explained above.)

An eCommerce company plans to use the AWS Cloud to quickly deliver new functionality in an iterative manner, minimizing the time to market.

Which feature of the AWS Cloud provides this functionality?

#### Explanation

In a cloud computing environment, new IT resources are only a click away, which means that you reduce the time to make those resources available to your developers from weeks to just minutes.

This results in a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

**CORRECT:**"Agility" is the correct answer.

What should a Cloud Practitioner ensure when designing a highly available architecture on AWS?

#### Explanation

In a highly available system the failure of a single component should not affect the application. This means that if a single component such as an application server fails, there should be other applications servers available that can seamlessly take over operations and ensure the application continues to operate.

**CORRECT:**"The failure of a single component should not affect the application" is the correct answer.

What can be used to allow an application running on an Amazon EC2 instance to securely store data in an Amazon S3 bucket without using long-term credentials?

#### Explanation

An IAM role is an IAM identity that you can create in your account that has specific permissions. An IAM role is similar to an IAM user, in that it is an AWS identity with permission policies that determine what the identity can and cannot do in AWS. However, instead of being uniquely associated with one person, a role is intended to be assumable by anyone who needs it.

Also, a role does not have standard long-term credentials such as a password or access keys associated with it. Instead, when you assume a role, it provides you with temporary security credentials for your role session.

**CORRECT:**"AWS IAM role" is the correct answer.

Which cloud architecture design principle is supported by deploying workloads across multiple Availability Zones?

#### Explanation

Amazon EC2 instances can be deployed in an Amazon VPC across multiple Availability Zones. You would then typically use an Elastic Load Balancer (ELB) to distribute load between the available instances. This architecture enables high availability as if a single instance fails or if something fails that causes an outage in an entire Availability Zone, the application still has available instances to continue to service demand.

**CORRECT:**"Design for failure" is the correct answer.

A user needs an automated security assessment report that will identify unintended network access to Amazon EC2 instances and vulnerabilities on those instances.

Which AWS service will provide this assessment report?

#### Explanation

Amazon Inspector is an automated security assessment service that helps improve the security and compliance of applications deployed on AWS. Amazon Inspector automatically assesses applications for exposure, vulnerabilities, and deviations from best practices.

After performing an assessment, Amazon Inspector produces a detailed list of security findings prioritized by level of severity. These findings can be reviewed directly or as part of detailed assessment reports which are available via the Amazon Inspector console or API.

**CORRECT:**"Amazon Inspector" is the correct answer.

A company is migrating virtual machines (VMs) from their data center to the AWS Cloud. The company plans to deploy these migrated machines on Amazon EC2.

Which cloud computing model will the company use for this operation?

#### Explanation

Infrastructure as a Service (IaaS) is a type of cloud computing service that offers essential compute, storage, and networking resources on demand, on a pay-as-you-go basis. IaaS is one of the four types of cloud services, along with software as a service (SaaS), platform as a service (PaaS), and Function as a Service (FaaS).

**CORRECT:**"Infrastructure as a Service (IaaS)" is the correct answer (as explained above.)

What can a Cloud Practitioner use the AWS Total Cost of Ownership (TCO) Calculator for?

#### Explanation

The TCO calculators allow you to estimate the cost savings when using AWS, compared to on-premises, and provide a detailed set of reports that can be used in executive presentations. The calculators also give you the option to modify assumptions that best meet your business needs.

**CORRECT:**"Estimate savings when comparing the AWS Cloud to an on-premises environment" is the correct answer.

Which AWS-managed service can be used to process vast amounts of data using a hosted Hadoop framework?

#### Explanation

Amazon Elastic Map Reduce (EMR) is a web service that enables businesses, researchers, data analysts, and developers to easily and cost-effectively process vast amounts of data. EMR utilizes a hosted Hadoop framework running on Amazon EC2 and Amazon S3.

**CORRECT:**"Amazon EMR" is the correct answer.

A Cloud Practitioner is re-architecting a monolithic application. Which design principles for cloud architecture do AWS recommend? (Select TWO.)

#### Explanation

Dependencies such as queuing systems, streaming systems, workflows, and load balancers are loosely coupled. Loose coupling helps isolate behavior of a component from other components that depend on it, increasing resiliency and agility

AWS recommend that you architect applications that scale horizontally to increase aggregate workload availability. This scaling should be automatic where possible.

**CORRECT:**"Implement loose coupling" is a correct answer.

**CORRECT:**"Design for scalability" is also a correct answer.

A company plan to move the application development to AWS. Which benefits can they achieve when developing and running applications in the AWS Cloud compared to on-premises? (Select TWO.)

#### Explanation

AWS provides many options for high availability including multiple availability zones within Regions and multiple Regions around the world. There are also many options to leverage durable data storage, message buses, databases.

AWS have a huge global infrastructure with massive amounts of capacity. It is therefore very easy to accommodate large changes in application demand and this can often be seamless to your application.

**CORRECT:**"AWS makes it easy to implement high availability" is a correct answer.

**CORRECT:**"AWS can accommodate large changes in application demand" is also a correct answer

Which AWS service does AWS Snowball Edge natively support?

#### Explanation

You can run Amazon EC2 compute instances hosted on a Snowball Edge with the sbe1, sbe-c, and sbe-g instance types. The sbe1 instance type works on devices with the Snowball Edge Storage Optimized option. The sbe-c instance type works on devices with the Snowball Edge Compute Optimized option. Both the sbe-c and sbe-g instance types work on devices with the Snowball Edge Compute Optimized with GPU option.

**CORRECT:**"Amazon EC2" is the correct answer.

Which of the following can be used to identify a specific user who terminated an Amazon RDS DB instance?

#### Explanation

AWS CloudTrail is a service that enables governance, compliance, operational auditing, and risk auditing of your AWS account. With CloudTrail, you can log, continuously monitor, and retain account activity related to actions across your AWS infrastructure.

CloudTrail provides event history of your AWS account activity, including actions taken through the AWS Management Console, AWS SDKs, command line tools, and other AWS services.

This event history simplifies security analysis, resource change tracking, and troubleshooting. In addition, you can use CloudTrail to detect unusual activity in your AWS accounts. These capabilities help simplify operational analysis and troubleshooting.

**CORRECT:**"AWS CloudTrail" is the correct answer.

Which of the following statements are security principles within the AWS Well-Architected Framework? (Select TWO.)

#### Explanation

Ongoing monitoring with alerting and remediation actions is a critical part of a coherent security posture. With ongoing monitoring, you can make sure any potential threats or security concerns can be remediated as soon as possible.  
Secondly, protecting data both in transit and at rest is a vital part of a security procedure which ensures that no data is read by anyone who shouldn’t have access to it.

**CORRECT:**"Monitor, alert, and audit actions and changes to AWS resources" is the correct answer (as explained above.)

**CORRECT:**"Protect data in transit and at rest" is also a correct answer (as explained above.)

A company needs an AWS service that can continuously monitor the company's AWS account. If there are any changes to the architecture, members of the team must be contacted.

Which service will meet these requirements?

#### Explanation

AWS Config keeps track of all changes to your resources by invoking the Describe or the List API call for each resource in your account. The service uses those same API calls to capture configuration details for all related resources.

AWS Config also tracks the configuration changes that were not initiated by the API. AWS Config examines the resource configurations periodically and generates configuration items for the configurations that have changed.

You can configure alerts to let team members know if resource configurations have changed. AWS Config can send notifications using Amazon SNS topics.

**CORRECT:**"AWS Config" is the correct answer (as explained above.)

A cloud practitioner needs to migrate a 70 TB of data from an on-premises data center into the AWS Cloud. The company has a slow and unreliable internet connection.

Which AWS service can the cloud practitioner leverage to transfer the data?

#### Explanation

AWS Snowball is a method of transferring the data using a physical device. A Snowball Edge device can hold up to 80 TB so a single device can be used. This transfer method completely avoids the slow and unreliable internet connection.

**CORRECT:**"AWS Snowball" is the correct answer.

AWS are able to continue to reduce their pricing due to:

#### Explanation

By using cloud computing, you can achieve a lower variable cost than you can get on your own. Because usage from hundreds of thousands of customers is aggregated in the cloud, providers such as AWS can achieve higher economies of scale, which translates into lower pay as-you-go prices.

**CORRECT:**"Economies of scale" is the correct answer.

Which AWS service helps customers meet corporate, contractual, and regulatory compliance requirements for data security by using dedicated hardware appliances within the AWS Cloud?

#### Explanation

The AWS CloudHSM service helps you meet corporate, contractual, and regulatory compliance requirements for data security by using dedicated Hardware Security Module (HSM) instances within the AWS cloud. AWS CloudHSM enables you to easily generate and use your own encryption keys on the AWS Cloud.

**CORRECT:**"AWS CloudHSM" is the correct answer.

A Service Control Policy (SCP) is used to manage the maximum available permissions and is associated with which of the following?

Service control policies (SCPs) manage permissions for which of the following?

#### Explanation

Service control policies (SCPs) are a type of organization policy that you can use to manage permissions in your organization. SCPs offer central control over the maximum available permissions for all accounts in your organization. SCPs are associated with AWS Organizations and help you to ensure your accounts stay within your organization’s access control guidelines. SCPs are available only in an organization that has all features enabled.

**CORRECT:**"AWS Organizations" is the correct answer.

Which service can a Cloud Practitioner use to configure custom cost and usage limits and enable alerts for when defined thresholds are exceeded?

#### Explanation

AWS Budgets allows you to set custom budgets to track your cost and usage. With AWS Budgets, you can choose to be alerted by email or SNS notification when actual or forecasted cost and usage exceed your budget threshold, or when your actual RI and Savings Plans' utilization or coverage drops below your desired threshold.

**CORRECT:**"AWS Budgets" is the correct answer.

According to the shared responsibility model, which security-related task is the responsibility of the customer?

#### Explanation

All client-side and server-side encryption is a responsibility of the customer using the AWS Cloud. This can be clearly seen in the shared responsibility model infographic below:

**CORRECT:**"Maintaining server-side encryption" is the correct answer.

A company needs a consistent and dedicated connection between AWS resources and an on-premise system.

Which AWS service can fulﬁl this requirement?

#### Explanation

An AWS Direct Connect connection is a private, dedicated link to AWS. As it does not use the internet, performance is consistent.

The following diagram shows how a corporate data center is connected to AWS using a Direct Connect link via an AWS Direct Connect location:

**CORRECT:**"AWS Direct Connect" is the correct answer.

What AWS service, tool, or feature can help companies identify underutilized Amazon EC2 instances and reduce their costs?

#### Explanation

AWS Trusted Advisor provides recommendations that help you follow AWS best practices. Trusted Advisor evaluates your account by using checks. These checks identify ways to optimize your AWS infrastructure, improve security and performance, reduce costs, and monitor service quotas. You can then follow the check recommendations to optimize your services and resources.

**CORRECT:**"AWS Trusted Advisor " is the correct answer (as explained above.)

According to the AWS shared responsibility model, which task is the customer's responsibility?

#### Explanation

According to the AWS Shared Responsibility Model updating Amazon EC2 guest operating systems falls under the area of security “in” the cloud which is a customer responsibility. With EC2, AWS manage the underlying platform on which EC2 runs but you must launch and manage your operating systems.

**CORRECT:**"Updating the guest operating system on Amazon EC2 instances" is the correct answer.

Which technology can automatically adjust compute capacity as demand for an application increases or decreases?

#### Explanation

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to automatically add or remove EC2 instances according to conditions you define. You can use the fleet management features of EC2 Auto Scaling to maintain the health and availability of your fleet.

You can also use the dynamic and predictive scaling features of EC2 Auto Scaling to add or remove EC2 instances. Dynamic scaling responds to changing demand and predictive scaling automatically schedules the right number of EC2 instances based on predicted demand. Dynamic scaling and predictive scaling can be used together to scale faster.

The image below shows an example where an Auto Scaling group is configured to ensure the average CPU of instances in the ASG does not exceed 60%. An additional instance is being launched as the actual load is 71.5%.

**CORRECT:**"Auto Scaling" is the correct answer.

Which AWS service is a fully-managed source control service that hosts secure Git-based repositories?

#### Explanation

AWS CodeCommit is a fully-managed [source control](https://aws.amazon.com/devops/source-control/) service that hosts secure Git-based repositories. It makes it easy for teams to collaborate on code in a secure and highly scalable ecosystem.

CodeCommit eliminates the need to operate your own source control system or worry about scaling its infrastructure. You can use CodeCommit to securely store anything from source code to binaries, and it works seamlessly with your existing Git tools.

**CORRECT:**"AWS CodeCommit" is the correct answer.

Which AWS hybrid storage service enables a user’s on-premises applications to seamlessly use AWS Cloud storage?

#### Explanation

AWS Storage Gateway is a hybrid cloud storage service that gives you on-premises access to virtually unlimited cloud storage. Customers use Storage Gateway to simplify storage management and reduce costs for key hybrid cloud storage use cases.

These include moving tape backups to the cloud, reducing on-premises storage with cloud-backed file shares, providing low latency access to data in AWS for on-premises applications, as well as various migration, archiving, processing, and disaster recovery use cases.

**CORRECT:**"AWS Storage Gateway" is the correct answer.

Which AWS service can be used to load data from Amazon S3, transform it, and move it to another destination?

#### Explanation

AWS Glue is an Extract, Transform, and Load (ETL) service. You can use AWS Glue with data sources on Amazon S3, RedShift and other databases. With AWS Glue you transform and move the data to various destinations. It is used to prepare and load data for analytics.

**CORRECT:**"AWS Glue" is the correct answer.

Which of the following are valid best practices for using the AWS Identity and Access Management (IAM) service? (Select TWO.)

**CORRECT:**"Create individual IAM users" is a correct answer.

**CORRECT:**"Use groups to assign permissions to IAM users" is also a correct answer.

A company needs to use third-party software for its workload on AWS.

Is there a feature or service of AWS that the company can use to purchase the software?

#### Explanation

AWS Marketplace is a curated digital catalog that makes it easy for organizations to discover, procure, entitle, provision, and govern third-party software. You can find thousands of software listings from popular categories like security, business applications, and data & analytics, and across specific industries, such as healthcare, financial services, and public sector.

**CORRECT:**"AWS Marketplace" is the correct answer (as explained above.)

Amazon S3 is typically used for which of the following use cases? (Select TWO.)

#### Explanation

Amazon S3 is an object storage system. Typical use cases include: Backup and storage, application hosting, media hosting, software delivery and hosting a static website.

**CORRECT:**"Host a static website" is the correct answer.

**CORRECT:**"Media hosting" is the correct answe

Which AWS service can be used to perform data extract, transform, and load (ETL) operations so you can prepare data for analytics?

#### Explanation

AWS Glue is a serverless data integration service that makes it easy to discover, prepare, and combine data for analytics, machine learning, and application development. AWS Glue provides all of the capabilities needed for data integration so that you can start analyzing your data and putting it to use in minutes instead of months.

AWS Glue provides both visual and code-based interfaces to make data integration easier. Users can easily find and access data using the AWS Glue Data Catalog. Data engineers and ETL (extract, transform, and load) developers can visually create, run, and monitor ETL workflows with a few clicks in AWS Glue Studio.

See how AWS Glue works with ETL workloads:

**CORRECT:**"AWS Glue" is the correct answer.

How should an organization deploy an application running on multiple EC2 instances to ensure that a power failure does not cause an application outage?

#### Explanation

If you have multiple EC2 instances that are part of an application, you should deploy them into separate availability zones (AZs). Each AZ has redundant power and is also fed from a different grid. AZs also have low-latency network links which is often advantageous for most applications.

You do not need to deploy into separate regions to prevent a power outage bringing your application down. AZs have redundant power and grids so you are safe deploying your applications into multiple AZs. If you split your applications across regions you introduce latency which may impact your application. You may also run into data sovereignty issues in some cases.

Deploying your EC2 instances into different VPCs is not required and would complicate your application deployment. Also, bear in mind that VPCs within a region use the same underlying infrastructure so deploying into different VPCs may still result in your EC2 instances being deployed into the same AZs. It is a best practice to deploy into separate AZs.

**CORRECT:**"Launch the EC2 instances into different Availability Zones" is the correct answer.

Which of the statements below is correct in relation to Consolidated Billing? (Select TWO.)

#### Explanation

Consolidated billing has the following benefits:

One bill – You get one bill for multiple accounts.

Easy tracking – You can track the charges across multiple accounts and download the combined cost and usage data.

Combined usage – You can combine the usage across all accounts in the organization to share the volume pricing discounts and Reserved Instance discounts. This can result in a lower charge for your project, department, or company than with individual standalone accounts.

**CORRECT:**"You receive a single bill for multiple accounts" is a correct answer.

**CORRECT:**"You can combine usage and share volume pricing discounts" is also a correct answer.

Which of the following best describes an Availability Zone in the AWS Cloud?

#### Explanation

An Availability Zone (AZ) is one or more discrete data centers with redundant power, networking, and connectivity in an AWS Region. AZ’s give customers the ability to operate production applications and databases that are more highly available, fault tolerant, and scalable than would be possible from a single data center.

The diagram below shows how AZs relate to AWS Regions:

**CORRECT:**"One or more physical data centers" is the correct answer.

A Cloud Practitioner noticed that IP addresses that are owned by AWS are being used to attempt to flood ports on some of the company’s systems.

To whom should the issue be reported?

#### Explanation

If you suspect that AWS resources are used for abusive purposes, contact the AWS Trust & Safety team using the [Report Amazon AWS abuse form](https://aws.amazon.com/forms/report-abuse), or by contacting [abuse@amazonaws.com](mailto:abuse@amazonaws.com). Provide all the necessary information, including logs in plaintext, email headers, and so on, when you submit your request.

**CORRECT:**"AWS Trust & Safety team" is the correct answer.

How can an organization take advantage of tiered pricing across multiple business units within an organization?

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts. This can be used for multiple business units within an organization.

Consolidated billing has the following benefits:

* **One bill** – You get one bill for multiple accounts.
* **Easy tracking** – You can track the charges across multiple accounts and download the combined cost and usage data.
* **Combined usage** – You can combine the usage across all accounts in the organization to share the volume pricing discounts, Reserved Instance discounts, and Savings Plans. This can result in a lower charge for your project, department, or company than with individual standalone accounts.
* **No extra fee** – Consolidated billing is offered at no additional cost.

Consolidated billing includes:

· **Paying Account**– independent and cannot access resources of other accounts

· **Linked Accounts** – all linked accounts are independent

**CORRECT:**"AWS Organizations consolidated billing" is the correct answer (as explained above.)

Which AWS service is used to send both text and email messages from distributed applications?

#### Explanation

Amazon Simple Notification Service (SNS) is a highly available, durable, secure, fully managed pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications.

Amazon SNS provides topics for high-throughput, push-based, many-to-many messaging. Using Amazon SNS topics, your publisher systems can fan out messages to a large number of subscriber endpoints for parallel processing, including [Amazon SQS](https://aws.amazon.com/sqs/) queues, [AWS Lambda](https://aws.amazon.com/lambda/) functions, and HTTP/S webhooks.

Additionally, SNS can be used to fan out notifications to end users using mobile push, SMS, and email.

**CORRECT:**"Amazon Simple Notiﬁcation Service (Amazon SNS)" is the correct answer.

Which AWS service should a Cloud Practitioner use to establish a secure network connection between an on-premises network and AWS?

#### Explanation

AWS Virtual Private Network solutions establish secure connections between your on-premises networks, remote offices, client devices, and the AWS global network.

**CORRECT:**"Virtual Private Network" is the correct answer.

A Cloud practitioner wants to know if there are services which can protect from DDoS (Distributed Denial of Service) attacks directed at AWS services.

Which AWS service or tool will provide this protection?

#### Explanation

AWS Shield is a managed Distributed Denial of Service (DDoS) protection service that safeguards applications running on AWS. AWS Shield provides always-on detection and automatic inline mitigations that minimize application downtime and latency, so there is no need to engage AWS Support to benefit from DDoS protection.

There are two tiers of AWS Shield - Standard and Advanced.

**CORRECT:**"AWS Shield" is the correct answer (as explained above.)

Which AWS service should a Cloud Practitioner use to automate conﬁguration management using Puppet?

#### Explanation

AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet. Chef and Puppet are automation platforms that allow you to use code to automate the configurations of your servers.

OpsWorks lets you use Chef and Puppet to automate how servers are configured, deployed, and managed across your [Amazon EC2](https://aws.amazon.com/ec2/) instances or on-premises compute environments,

**CORRECT:**"AWS OpsWorks" is the correct answer.

A Cloud Practitioner wants to configure the AWS CLI for programmatic access to AWS services. Which credential components are required? (Select TWO.)

**CORRECT:**"An access key ID" is a correct answer.

**CORRECT:**"A secret access key" is also a correct answer.

Which AWS dashboard displays relevant and timely information to help users manage events in progress, and provides proactive notifications to help plan for scheduled activities?

AWS Personal Health Dashboard provides alerts and remediation guidance when AWS is experiencing events that may impact you. While the Service Health Dashboard displays the general status of AWS services, Personal Health Dashboard gives you a personalized view into the performance and availability of the AWS services underlying your AWS resources.

The dashboard displays relevant and timely information to help you manage events in progress, and provides proactive notification to help you plan for scheduled activities. With Personal Health Dashboard, alerts are triggered by changes in the health of AWS resources, giving you event visibility, and guidance to help quickly diagnose and resolve issues.

**CORRECT:**"AWS Personal Health Dashboard" is the correct answer.

A company is interested in moving its on-premises NoSQL database into the AWS Cloud.

Which AWS service should the company use to replace their existing database?

#### Explanation

Amazon DynamoDB is a fully managed, serverless, key-value NoSQL database designed to run high-performance applications at any scale. DynamoDB offers built-in security, continuous backups, automated multi-Region replication, in-memory caching, and data export tools. When you hear of AWS Managed NoSQL databases, DynamoDB is the only acceptable choice.

**CORRECT:**"Amazon DynamoDB" is the correct answer (as explained above.)

Which Amazon EC2 tool acts as a virtual firewall to control inbound and outbound traffic to an EC2 instance?

#### Explanation

A security group acts as a virtual firewall, controlling the traffic that is allowed to reach and leave the resources that it is associated with. For example, after you associate a security group with an EC2 instance, it controls the inbound and outbound traffic for the instance.

**CORRECT:**"Security Group" is the correct answer (as explained above.)

Which of the following tasks can a user perform to optimize Amazon EC2 costs? (Select TWO.)

#### Explanation

Cost optimization can include using Auto Scaling groups to scale the number of EC2 instances according to actual demand. Also, using Amazon EC2 reserved instances for suitable workloads is a good way of optimizing costs over the longer term.

**CORRECT:**"Implement Auto Scaling groups to add and remove instances based on demand" is a correct answer.

**CORRECT:**"Purchase Amazon EC2 Reserved Instances" is also a correct answer.

A user has limited knowledge of AWS services, but wants to quickly deploy a scalable Node.js application in an Amazon VPC.

Which service should be used to deploy the application?

#### Explanation

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

You can simply upload your code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring. At the same time, you retain full control over the AWS resources powering your application and can access the underlying resources at any time.

**CORRECT:**"AWS Elastic Beanstalk" is the correct answer.

Which benefit of AWS enables companies to replace upfront fixed expenses with variable expenses when using on-demand technology services?

#### Explanation

Pay-as-you-go-pricing is an example of the AWS advantage “Trade capital expense for variable expense**”**. This is documented in the [**Six Advantages of Cloud Computing**](https://docs.aws.amazon.com/whitepapers/latest/aws-overview/six-advantages-of-cloud-computing.html)**.**

Instead of having to invest heavily in data centers and servers before you know how you’re going to use them, you can pay only when you consume computing resources, and pay only for how much you consume.

**CORRECT:**"Pay-as-you-go pricing" is the correct answer.

Which of the following is an advantage for a company running workloads in the AWS Cloud vs on-premises? (Select TWO.)

#### Explanation

Using AWS cloud services can help development teams to be more productive as they spend less time working on the infrastructure layer as it is provided for them. This additionally means launching new workloads requires less time as you can automate the implementation of the application and there is no underlying hardware layer to configure.

**CORRECT:**"Less staff time is required to launch new workloads" is a correct answer.

**CORRECT:**"Increased productivity for application development teams" is also a correct answer.

Which combination of steps will enable multi-factor authentication (MFA) on an AWS account? (Select TWO.)

#### Explanation

Multi-factor authentication (MFA) in AWS is a simple best practice that adds an extra layer of protection on top of your user name and password. With MFA enabled, when a user signs in to an AWS Management Console, they will be prompted for their user name and password (the first factor—what they know), as well as for an authentication code from their AWS MFA device (the second factor—what they have).

Taken together, these multiple factors provide increased security for your AWS account settings and resources. You can enable MFA for your AWS account and for individual IAM users you have created under your account. MFA can also be used to control access to AWS service APIs.

You will first need a device capable of providing an application which can support virtual MFA. There are several form factors to choose from:

Once you have this device, you will need to register it to your AWS account through the AWS Identity and Access Management (IAM) service.

**CORRECT:**"Acquire an MFA-compatible device" is a correct answer (as explained above.)

**CORRECT:**"Activate the MFA device in the IAM console or by using the AWS CLI" is also a correct answer (as explained above.)

What is the function of Amazon EC2 Auto Scaling?

#### Explanation

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to automatically add or remove EC2 instances according to conditions you define. You can use the fleet management features of EC2 Auto Scaling to maintain the health and availability of your fleet. You can also use the dynamic and predictive scaling features of EC2 Auto Scaling to add or remove EC2 instances.

**CORRECT:**"Scales the number of EC2 instances in or out automatically, based on demand." is the correct answer.

An application has highly dynamic usage patterns. Which characteristics of the AWS Cloud make it cost-effective for this type of workload? (Select TWO.)

#### Explanation

AWS is a cost-effective for dynamic workloads because it is elastic, meaning your workload can scale based on demand. And because you only pay for what you use (pay-as-you-go pricing).

**CORRECT:**"Elasticity" is the correct answer.

**CORRECT:**"Pay-as-you-go pricing" is the correct answer.

Which AWS service can be used to run Docker containers?

#### Explanation

Amazon Elastic Container Service (ECS) is a highly scalable, high performance container management service that supports Docker containers and allows you to easily run applications on a managed cluster of Amazon EC2 instances.

**CORRECT:**"Amazon ECS" is the correct answer.

Which AWS services offer compute capabilities? (Select TWO.)

#### Explanation

The Amazon Elastic Container Service (ECS) is a compute service that allows you to run Docker containers as tasks on AWS. AWS Lambda is a function as a service offering that provides the ability to run compute functions in response to triggers.

**CORRECT:**"Amazon ECS" is a correct answer.

**CORRECT:**"AWS Lambda" is also a correct answer.

According to the AWS Shared responsibility model, which two tasks are the responsibility of AWS? (Select TWO.)

#### Explanation

As part of the AWS Shared Responsibility Model, the customer does not have any insight into how physical infrastructure is managed or maintained. The customer is responsible for security in the cloud, whereas AWS are responsible for the security of the cloud.

Also, AWS customers have no insight into how Amazon S3 works behind the scenes, as Amazon S3 is a fully managed object storage service. Users simply use Amazon S3, and AWS manage all the infrastructure, OS patching and maintenance etc. for you.

**CORRECT:**"Provide physical security for Availability Zones” is correct (as explained above.)

**CORRECT:**“Patch the operating system of Amazon S3" is also correct (as explained above.)

Which Amazon EC2 pricing model should be avoided if a workload cannot accept interruption if capacity becomes temporarily unavailable?

#### Explanation

Amazon EC2 Spot Instances let you take advantage of unused EC2 capacity in the AWS cloud. Spot Instances are available at up to a 90% discount compared to On-Demand prices.

The downside is that if capacity becomes temporarily unavailable, your instances may be terminated.

**CORRECT:**"Spot Instances" is the correct answer.

Which AWS service can act as a hybrid storage solution to connect on-premises workloads with the AWS cloud?

#### Explanation

AWS Storage Gateway is a hybrid cloud storage service that gives you on-premises access to virtually unlimited cloud storage. You can use Storage Gateway to simplify storage management and reduce costs for key hybrid cloud storage use cases.

These include moving backups to the cloud, using on-premises file shares backed by cloud storage, and providing low-latency access to data in AWS for on-premises applications.

To support these use cases, the service provides four different types of gateways – Tape Gateway, Amazon S3 File Gateway, Amazon FSx File Gateway, and Volume Gateway – that seamlessly connect on-premises applications to cloud storage, caching data locally for low-latency access.

**CORRECT:**"AWS Storage Gateway" is the correct answer (as explained above.)

Which on-premises costs must be included in a Total Cost of Ownership (TCO) calculation when comparing against the AWS Cloud? (Select TWO.)

#### Explanation

When performing a TCO analysis you must include all costs you are currently incurring in the on-premises environment that you will not pay for in the AWS Cloud. This should include labor costs for activities that will be reduced or eliminated. Labor costs that will continue to be incurred in the cloud need not be included.

**CORRECT:**"Physical compute hardware" is a correct answer.

**CORRECT:**"Network infrastructure in the data center" is also a correct answer

A company requires a dashboard for reporting when using a business intelligence solution. Which AWS service can a Cloud Practitioner use?

Which AWS service can be used?

#### Explanation

Amazon QuickSight is a scalable, serverless, embeddable, machine learning-powered business intelligence (BI) service built for the cloud.

QuickSight lets you easily create and publish interactive BI dashboards that include Machine Learning-powered insights.

QuickSight dashboards can be accessed from any device, and seamlessly embedded into your applications, portals, and websites.

**CORRECT:**"Amazon QuickSight" is the correct answer.

A Cloud Practitioner requires a simple method to identify if unrestricted access to resources has been allowed by security groups. Which service can the Cloud Practitioner use?

#### Explanation

AWS Trusted Advisor checks security groups for rules that allow unrestricted access (0.0.0.0/0) to specific ports. Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data). The ports with highest risk are flagged red, and those with less risk are flagged yellow. Ports flagged green are typically used by applications that require unrestricted access, such as HTTP and SMTP.

The following image shows the results of the security group checks in an AWS account:

**CORRECT:**"AWS Trusted Advisor" is the correct answer.

According to the shared responsibility mode, which security and compliance task is AWS responsible for?

#### Explanation

According to the AWS shared responsibility model AWS are responsible for security “of” the cloud. This includes updating the firmware of the EC2 host servers on which instances run. All of the other answers are incorrect as they represent security “in” the cloud which is a customer responsibility.

**CORRECT:**"Updating Amazon EC2 host firmware" is the correct answer.

Which AWS service or feature allows a company to receive a single monthly AWS bill when using multiple AWS accounts?

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts or multiple Amazon Internet Services Pvt. Ltd (AISPL) accounts. Every organization in AWS Organizations has a master (payer) account that pays the charges of all the member (linked) accounts.

Consolidated billing has the following benefits:

• **One bill** – You get one bill for multiple accounts.

• **Easy tracking** – You can track the charges across multiple accounts and download the combined cost and usage data.

• **Combined usage** – You can combine the usage across all accounts in the organization to share the volume pricing discounts, Reserved Instance discounts, and Savings Plans. This can result in a lower charge for your project, department, or company than with individual standalone accounts.

• **No extra fee** – Consolidated billing is offered at no additional cost.

**CORRECT:**"Consolidated billing" is the correct answer.

**TYPE QUESTION 2**

Which Amazon EC2 pricing model should be avoided if a workload cannot accept interruption if capacity becomes temporarily unavailable?

**Explanation**

Amazon EC2 Spot Instances let you take advantage of unused EC2 capacity in the AWS cloud. Spot Instances are available at up to a 90% discount compared to On-Demand prices.

The downside is that if capacity becomes temporarily unavailable, your instances may be terminated.

A Cloud practitioner wants to know if there are services which can protect from DDoS (Distributed Denial of Service) attacks directed at AWS services.

Which AWS service or tool will provide this protection?

#### Explanation

AWS Shield is a managed Distributed Denial of Service (DDoS) protection service that safeguards applications running on AWS. AWS Shield provides always-on detection and automatic inline mitigations that minimize application downtime and latency, so there is no need to engage AWS Support to benefit from DDoS protection.

There are two tiers of AWS Shield - Standard and Advanced.

Which combination of steps will enable multi-factor authentication (MFA) on an AWS account? (Select TWO.)

#### Explanation

Multi-factor authentication (MFA) in AWS is a simple best practice that adds an extra layer of protection on top of your username and password. With MFA enabled, when a user signs into an AWS Management Console, they will be prompted for their user name and password (the first factor—what they know), as well as for an authentication code from their AWS MFA device (the second factor—what they have).

Taken together, these multiple factors provide increased security for your AWS account settings and resources. You can enable MFA for your AWS account and for individual IAM users you have created under your account. MFA can also be used to control access to AWS service APIs.

You will first need a device capable of providing an application which can support virtual MFA. There are several form factors to choose from:

Once you have this device, you will need to register it to your AWS account through the AWS Identity and Access Management (IAM) service.

Which AWS hybrid storage service enables a user’s on-premises applications to seamlessly use AWS Cloud storage?

#### Explanation

AWS Storage Gateway is a hybrid cloud storage service that gives you on-premises access to virtually unlimited cloud storage. Customers use Storage Gateway to simplify storage management and reduce costs for key hybrid cloud storage use cases.

These include moving tape backups to the cloud, reducing on-premises storage with cloud-backed file shares, providing low latency access to data in AWS for on-premises applications, as well as various migration, archiving, processing, and disaster recovery use cases.

A company is migrating virtual machines (VMs) from their data center to the AWS Cloud. The company plans to deploy these migrated machines on Amazon EC2.

Which cloud computing model will the company use for this operation?

#### Explanation

Infrastructure as a Service (IaaS) is a type of cloud computing service that offers essential compute, storage, and networking resources on demand, on a pay-as-you-go basis. IaaS is one of the four types of cloud services, along with software as a service (SaaS), platform as a service (PaaS), and Function as a Service (FaaS).

Which cloud architecture design principle is supported by deploying workloads across multiple Availability Zones?

#### Explanation

Amazon EC2 instances can be deployed in an Amazon VPC across multiple Availability Zones. You would then typically use an Elastic Load Balancer (ELB) to distribute load between the available instances. This architecture enables high availability as if a single instance fails or if something fails that causes an outage in an entire Availability Zone, the application still has available instances to continue to service demand.

Which AWS service can be used to load data from Amazon S3, transform it, and move it to another destination?

#### Explanation

AWS Glue is an Extract, Transform, and Load (ETL) service. You can use AWS Glue with data sources on Amazon S3, RedShift and other databases. With AWS Glue you transform and move the data to various destinations. It is used to prepare and load data for analytics.

Which AWS service should a Cloud Practitioner use to automate conﬁguration management using Puppet?

#### Explanation

AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet. Chef and Puppet are automation platforms that allow you to use code to automate the configurations of your servers.

OpsWorks lets you use Chef and Puppet to automate how servers are configured, deployed, and managed across your [Amazon EC2](https://aws.amazon.com/ec2/) instances or on-premises compute environments,

A company requires a dashboard for reporting when using a business intelligence solution. Which AWS service can a Cloud Practitioner use?

Which AWS service can be used?

#### Explanation

Amazon QuickSight is a scalable, serverless, embeddable, machine learning-powered business intelligence (BI) service built for the cloud.

QuickSight lets you easily create and publish interactive BI dashboards that include Machine Learning-powered insights.

QuickSight dashboards can be accessed from any device, and seamlessly embedded into your applications, portals, and websites.

A company has a global user base and needs to deploy AWS services that can decrease network latency for their users. Which services may assist? (Select TWO.)

#### Explanation

Amazon CloudFront is a content delivery network (CDN) that caches media assets such as files, photos, and videos in Edge locations around the world. This gets your content closer to the user base which decreases latency.

AWS Global Accelerator is a service that can direct users to the nearest AWS Region that contains and endpoint for an application. The service utilizes Edge locations to decrease latency and then forwards all traffic on the AWS global network which also decreases latency.

Which benefits can a company immediately realize using the AWS Cloud? (Select TWO.)

#### Explanation

A couple of the benefits that companies will realize immediately when using the AWS Cloud are increased agility and a change from capital expenditure to variable operational expenditure.

Agility is enabled through the flexibility of cloud services and the ease with which applications can be deployed, scaled, and managed. When using cloud services you pay for what you use and this is a variable, operational expense which can be beneficial to company cashflow.

An eCommerce company plans to use the AWS Cloud to quickly deliver new functionality in an iterative manner, minimizing the time to market.

Which feature of the AWS Cloud provides this functionality?

#### Explanation

In a cloud computing environment, new IT resources are only a click away, which means that you reduce the time to make those resources available to your developers from weeks to just minutes.

This results in a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

Which benefit of AWS enables companies to replace upfront fixed expenses with variable expenses when using on-demand technology services?

#### Explanation

Pay-as-you-go-pricing is an example of the AWS advantage “Trade capital expense for variable expense**”**. This is documented in the [**Six Advantages of Cloud Computing**](https://docs.aws.amazon.com/whitepapers/latest/aws-overview/six-advantages-of-cloud-computing.html)**.**

Instead of having to invest heavily in data centers and servers before you know how you’re going to use them, you can pay only when you consume computing resources, and pay only for how much you consume.

How can an organization gain access to compliance reports natively through the AWS console?

#### Explanation

AWS Artifact is your go-to, central resource for compliance-related information that matters to you. You can access the AWS Artifact console to use AWS Artifact to review, accept, and track the status of AWS agreements

An application has highly dynamic usage patterns. Which characteristics of the AWS Cloud make it cost-effective for this type of workload? (Select TWO.)

#### Explanation

AWS is a cost-effective for dynamic workloads because it is elastic, meaning your workload can scale based on demand. And because you only pay for what you use (pay-as-you-go pricing).

Which AWS service is a fully-managed source control service that hosts secure Git-based repositories?

#### Explanation

AWS CodeCommit is a fully-managed [source control](https://aws.amazon.com/devops/source-control/) service that hosts secure Git-based repositories. It makes it easy for teams to collaborate on code in a secure and highly scalable ecosystem.

CodeCommit eliminates the need to operate your own source control system or worry about scaling its infrastructure. You can use CodeCommit to securely store anything from source code to binaries, and it works seamlessly with your existing Git tools.

AWS are able to continue to reduce their pricing due to:

#### Explanation

By using cloud computing, you can achieve a lower variable cost than you can get on your own. Because usage from hundreds of thousands of customers is aggregated in the cloud, providers such as AWS can achieve higher economies of scale, which translates into lower pay as-you-go prices.

Which of the statements below is correct in relation to Consolidated Billing? (Select TWO.)

#### Explanation

Consolidated billing has the following benefits:

One bill – You get one bill for multiple accounts.

Easy tracking – You can track the charges across multiple accounts and download the combined cost and usage data.

Combined usage – You can combine the usage across all accounts in the organization to share the volume pricing discounts and Reserved Instance discounts. This can result in a lower charge for your project, department, or company than with individual standalone accounts.

According to the shared responsibility model, which security-related task is the responsibility of the customer?

#### Explanation

All client-side and server-side encryption is a responsibility of the customer using the AWS Cloud. This can be clearly seen in the shared responsibility model infographic below:

A Cloud Practitioner requires a simple method to identify if unrestricted access to resources has been allowed by security groups. Which service can the Cloud Practitioner use?

#### Explanation

AWS Trusted Advisor checks security groups for rules that allow unrestricted access (0.0.0.0/0) to specific ports. Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data). The ports with highest risk are flagged red, and those with less risk are flagged yellow. Ports flagged green are typically used by applications that require unrestricted access, such as HTTP and SMTP.

The following image shows the results of the security group checks in an AWS account:

Which service can a Cloud Practitioner use to configure custom cost and usage limits and enable alerts for when defined thresholds are exceeded?

#### Explanation

AWS Budgets allows you to set custom budgets to track your cost and usage. With AWS Budgets, you can choose to be alerted by email or SNS notification when actual or forecasted cost and usage exceed your budget threshold, or when your actual RI and Savings Plans' utilization or coverage drops below your desired threshold.

How should an organization deploy an application running on multiple EC2 instances to ensure that a power failure does not cause an application outage?

#### Explanation

If you have multiple EC2 instances that are part of an application, you should deploy them into separate availability zones (AZs). Each AZ has redundant power and is also fed from a different grid. AZs also have low-latency network links which is often advantageous for most applications.

You do not need to deploy into separate regions to prevent a power outage bringing your application down. AZs have redundant power and grids so you are safe deploying your applications into multiple AZs. If you split your applications across regions you introduce latency which may impact your application. You may also run into data sovereignty issues in some cases.

Deploying your EC2 instances into different VPCs is not required and would complicate your application deployment. Also, bear in mind that VPCs within a region use the same underlying infrastructure so deploying into different VPCs may still result in your EC2 instances being deployed into the same AZs. It is a best practice to deploy into separate AZs.

A company needs an AWS service that can continuously monitor the company's AWS account. If there are any changes to the architecture, members of the team must be contacted.

Which service will meet these requirements?

#### Explanation

AWS Config keeps track of all changes to your resources by invoking the Describe or the List API call for each resource in your account. The service uses those same API calls to capture configuration details for all related resources.

AWS Config also tracks the configuration changes that were not initiated by the API. AWS Config examines the resource configurations periodically and generates configuration items for the configurations that have changed.

You can configure alerts to let team members know if resource configurations have changed. AWS Config can send notifications using Amazon SNS topics.

Which AWS-managed service can be used to process vast amounts of data using a hosted Hadoop framework?

#### Explanation

Amazon Elastic Map Reduce (EMR) is a web service that enables businesses, researchers, data analysts, and developers to easily and cost-effectively process vast amounts of data. EMR utilizes a hosted Hadoop framework running on Amazon EC2 and Amazon S3.

Which AWS service can act as a hybrid storage solution to connect on-premises workloads with the AWS cloud?

#### Explanation

AWS Storage Gateway is a hybrid cloud storage service that gives you on-premises access to virtually unlimited cloud storage. You can use Storage Gateway to simplify storage management and reduce costs for key hybrid cloud storage use cases.

These include moving backups to the cloud, using on-premises file shares backed by cloud storage, and providing low-latency access to data in AWS for on-premises applications.

To support these use cases, the service provides four different types of gateways – Tape Gateway, Amazon S3 File Gateway, Amazon FSx File Gateway, and Volume Gateway – that seamlessly connect on-premises applications to cloud storage, caching data locally for low-latency access.

Which on-premises costs must be included in a Total Cost of Ownership (TCO) calculation when comparing against the AWS Cloud? (Select TWO.)

#### Explanation

When performing a TCO analysis you must include all costs you are currently incurring in the on-premises environment that you will not pay for in the AWS Cloud. This should include labor costs for activities that will be reduced or eliminated. Labor costs that will continue to be incurred in the cloud need not be included

A Cloud Practitioner wants to configure the AWS CLI for programmatic access to AWS services. Which credential components are required? (Select TWO.)

#### Explanation

Access keys are long-term credentials for an IAM user or the AWS account root user. You can use access keys to sign programmatic requests to the AWS CLI or AWS API (directly or using the AWS SDK).

Access keys consist of two parts: an access key ID (for example, AKIAIOSFODNN7EXAMPLE) and a secret access key (for example, wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY).

Like a user name and password, you must use both the access key ID and secret access key together to authenticate your requests. Manage your access keys as securely as you do your user name and password.

A Service Control Policy (SCP) is used to manage the maximum available permissions and is associated with which of the following?

Service control policies (SCPs) manage permissions for which of the following?

#### Explanation

Service control policies (SCPs) are a type of organization policy that you can use to manage permissions in your organization. SCPs offer central control over the maximum available permissions for all accounts in your organization. SCPs are associated with AWS Organizations and help you to ensure your accounts stay within your organization’s access control guidelines. SCPs are available only in an organization that has all features enabled.

What is the function of Amazon EC2 Auto Scaling?

#### Explanation

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to automatically add or remove EC2 instances according to conditions you define. You can use the fleet management features of EC2 Auto Scaling to maintain the health and availability of your fleet. You can also use the dynamic and predictive scaling features of EC2 Auto Scaling to add or remove EC2 instances.

Which AWS service should a Cloud Practitioner use to establish a secure network connection between an on-premises network and AWS?

#### Explanation

AWS Virtual Private Network solutions establish secure connections between your on-premises networks, remote offices, client devices, and the AWS global network.

Which AWS service does AWS Snowball Edge natively support?

#### Explanation

You can run Amazon EC2 compute instances hosted on a Snowball Edge with the sbe1, sbe-c, and sbe-g instance types. The sbe1 instance type works on devices with the Snowball Edge Storage Optimized option. The sbe-c instance type works on devices with the Snowball Edge Compute Optimized option. Both the sbe-c and sbe-g instance types work on devices with the Snowball Edge Compute Optimized with GPU option.

Which of the following should be used to improve the security of access to the AWS Management Console? (Select TWO.)

#### Explanation

For extra security, AWS recommends that you require multi-factor authentication (MFA) for all users in your account. With MFA, users have a device that generates a response to an authentication challenge.

Both the user's credentials (something you know) and the device-generated response (something you have) are required to complete the sign-in process. If a user's password or access keys are compromised, your account resources are still secure because of the additional authentication requirement.

Additionally, strong password policies should be used to enforce measures including minimum password length, complexity, and password reuse restrictions.

What can be used to allow an application running on an Amazon EC2 instance to securely store data in an Amazon S3 bucket without using long-term credentials?

#### Explanation

An IAM role is an IAM identity that you can create in your account that has specific permissions. An IAM role is similar to an IAM user, in that it is an AWS identity with permission policies that determine what the identity can and cannot do in AWS. However, instead of being uniquely associated with one person, a role is intended to be assumable by anyone who needs it.

Also, a role does not have standard long-term credentials such as a password or access keys associated with it. Instead, when you assume a role, it provides you with temporary security credentials for your role session.

Which AWS service can be used to perform data extract, transform, and load (ETL) operations so you can prepare data for analytics?

#### Explanation

AWS Glue is a serverless data integration service that makes it easy to discover, prepare, and combine data for analytics, machine learning, and application development. AWS Glue provides all of the capabilities needed for data integration so that you can start analyzing your data and putting it to use in minutes instead of months.

AWS Glue provides both visual and code-based interfaces to make data integration easier. Users can easily find and access data using the AWS Glue Data Catalog. Data engineers and ETL (extract, transform, and load) developers can visually create, run, and monitor ETL workflows with a few clicks in AWS Glue Studio.

See how AWS Glue works with ETL workloads:

Which AWS service can be used to run Docker containers?

#### Explanation

Amazon Elastic Container Service (ECS) is a highly scalable, high performance container management service that supports Docker containers and allows you to easily run applications on a managed cluster of Amazon EC2 instances.

Which technology can automatically adjust compute capacity as demand for an application increases or decreases?

#### Explanation

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to automatically add or remove EC2 instances according to conditions you define. You can use the fleet management features of EC2 Auto Scaling to maintain the health and availability of your fleet.

You can also use the dynamic and predictive scaling features of EC2 Auto Scaling to add or remove EC2 instances. Dynamic scaling responds to changing demand and predictive scaling automatically schedules the right number of EC2 instances based on predicted demand. Dynamic scaling and predictive scaling can be used together to scale faster.

The image below shows an example where an Auto Scaling group is configured to ensure the average CPU of instances in the ASG does not exceed 60%. An additional instance is being launched as the actual load is 71.5%.

Which of the following statements are security principles within the AWS Well-Architected Framework? (Select TWO.)

#### Explanation

Ongoing monitoring with alerting and remediation actions is a critical part of a coherent security posture. With ongoing monitoring, you can make sure any potential threats or security concerns can be remediated as soon as possible.  
Secondly, protecting data both in transit and at rest is a vital part of a security procedure which ensures that no data is read by anyone who shouldn’t have access to it.

Which AWS dashboard displays relevant and timely information to help users manage events in progress, and provides proactive notifications to help plan for scheduled activities?

#### Explanation

AWS Personal Health Dashboard provides alerts and remediation guidance when AWS is experiencing events that may impact you. While the Service Health Dashboard displays the general status of AWS services, Personal Health Dashboard gives you a personalized view into the performance and availability of the AWS services underlying your AWS resources.

The dashboard displays relevant and timely information to help you manage events in progress, and provides proactive notification to help you plan for scheduled activities. With Personal Health Dashboard, alerts are triggered by changes in the health of AWS resources, giving you event visibility, and guidance to help quickly diagnose and resolve issues.

Which of the following are valid best practices for using the AWS Identity and Access Management (IAM) service? (Select TWO.)

**CORRECT:** "Create individual IAM users" is a correct answer.

Which AWS services offer compute capabilities? (Select TWO.)

#### Explanation

The Amazon Elastic Container Service (ECS) is a compute service that allows you to run Docker containers as tasks on AWS. AWS Lambda is a function as a service offering that provides the ability to run compute functions in response to triggers.

A user needs an automated security assessment report that will identify unintended network access to Amazon EC2 instances and vulnerabilities on those instances.

Which AWS service will provide this assessment report?

#### Explanation

Amazon Inspector is an automated security assessment service that helps improve the security and compliance of applications deployed on AWS. Amazon Inspector automatically assesses applications for exposure, vulnerabilities, and deviations from best practices.

After performing an assessment, Amazon Inspector produces a detailed list of security findings prioritized by level of severity. These findings can be reviewed directly or as part of detailed assessment reports which are available via the Amazon Inspector console or API

A Cloud Practitioner noticed that IP addresses that are owned by AWS are being used to attempt to flood ports on some of the company’s systems.

To whom should the issue be reported?

#### Explanation

If you suspect that AWS resources are used for abusive purposes, contact the AWS Trust & Safety team using the [Report Amazon AWS abuse form](https://aws.amazon.com/forms/report-abuse), or by contacting [abuse@amazonaws.com](mailto:abuse@amazonaws.com). Provide all the necessary information, including logs in plaintext, email headers, and so on, when you submit your request.

A company needs to use third-party software for its workload on AWS.

Is there a feature or service of AWS that the company can use to purchase the software?

#### Explanation

AWS Marketplace is a curated digital catalog that makes it easy for organizations to discover, procure, entitle, provision, and govern third-party software. You can find thousands of software listings from popular categories like security, business applications, and data & analytics, and across specific industries, such as healthcare, financial services, and public sector.

What should a Cloud Practitioner ensure when designing a highly available architecture on AWS?

#### Explanation

In a highly available system the failure of a single component should not affect the application. This means that if a single component such as an application server fails, there should be other applications servers available that can seamlessly take over operations and ensure the application continues to operate.

Amazon S3 is typically used for which of the following use cases? (Select TWO.)

#### Explanation

Amazon S3 is an object storage system. Typical use cases include: Backup and storage, application hosting, media hosting, software delivery and hosting a static website.

Which of the following tasks can a user perform to optimize Amazon EC2 costs? (Select TWO.)

#### Explanation

Cost optimization can include using Auto Scaling groups to scale the number of EC2 instances according to actual demand. Also, using Amazon EC2 reserved instances for suitable workloads is a good way of optimizing costs over the longer term.

Which of the following can be used to identify a specific user who terminated an Amazon RDS DB instance?

#### Explanation

AWS CloudTrail is a service that enables governance, compliance, operational auditing, and risk auditing of your AWS account. With CloudTrail, you can log, continuously monitor, and retain account activity related to actions across your AWS infrastructure.

CloudTrail provides event history of your AWS account activity, including actions taken through the AWS Management Console, AWS SDKs, command line tools, and other AWS services.

This event history simplifies security analysis, resource change tracking, and troubleshooting. In addition, you can use CloudTrail to detect unusual activity in your AWS accounts. These capabilities help simplify operational analysis and troubleshooting.

What can a Cloud Practitioner use the AWS Total Cost of Ownership (TCO) Calculator for?

#### Explanation

The TCO calculators allow you to estimate the cost savings when using AWS, compared to on-premises, and provide a detailed set of reports that can be used in executive presentations. The calculators also give you the option to modify assumptions that best meet your business needs.

A company plan to move the application development to AWS. Which benefits can they achieve when developing and running applications in the AWS Cloud compared to on-premises? (Select TWO.)

#### Explanation

AWS provides many options for high availability including multiple availability zones within Regions and multiple Regions around the world. There are also many options to leverage durable data storage, message buses, databases.

AWS have a huge global infrastructure with massive amounts of capacity. It is therefore very easy to accommodate large changes in application demand and this can often be seamless to your application.

What AWS service, tool, or feature can help companies identify underutilized Amazon EC2 instances and reduce their costs?

#### Explanation

AWS Trusted Advisor provides recommendations that help you follow AWS best practices. Trusted Advisor evaluates your account by using checks. These checks identify ways to optimize your AWS infrastructure, improve security and performance, reduce costs, and monitor service quotas. You can then follow the check recommendations to optimize your services and resources.

Which of the following is an advantage for a company running workloads in the AWS Cloud vs on-premises? (Select TWO.)

#### Explanation

Using AWS cloud services can help development teams to be more productive as they spend less time working on the infrastructure layer as it is provided for them. This additionally means launching new workloads requires less time as you can automate the implementation of the application and there is no underlying hardware layer to configure.

According to the AWS shared responsibility model, which task is the customer's responsibility?

Explanation

According to the AWS Shared Responsibility Model updating Amazon EC2 guest operating systems falls under the area of security “in” the cloud which is a customer responsibility. With EC2, AWS manage the underlying platform on which EC2 runs but you must launch and manage your operating systems.

According to the shared responsibility mode, which security and compliance task is AWS responsible for?

#### Explanation

According to the AWS shared responsibility model AWS are responsible for security “of” the cloud. This includes updating the firmware of the EC2 host servers on which instances run. All of the other answers are incorrect as they represent security “in” the cloud which is a customer responsibility.

Which AWS service is used to send both text and email messages from distributed applications?

#### Explanation

Amazon Simple Notification Service (SNS) is a highly available, durable, secure, fully managed pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications.

Amazon SNS provides topics for high-throughput, push-based, many-to-many messaging. Using Amazon SNS topics, your publisher systems can fan out messages to a large number of subscriber endpoints for parallel processing, including [Amazon SQS](https://aws.amazon.com/sqs/) queues, [AWS Lambda](https://aws.amazon.com/lambda/) functions, and HTTP/S webhooks.

Additionally, SNS can be used to fan out notifications to end users using mobile push, SMS, and email.

Which AWS service or feature allows a company to receive a single monthly AWS bill when using multiple AWS accounts?

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts or multiple Amazon Internet Services Pvt. Ltd (AISPL) accounts. Every organization in AWS Organizations has a master (payer) account that pays the charges of all the member (linked) accounts.

Consolidated billing has the following benefits:

• **One bill** – You get one bill for multiple accounts.

• **Easy tracking** – You can track the charges across multiple accounts and download the combined cost and usage data.

• **Combined usage** – You can combine the usage across all accounts in the organization to share the volume pricing discounts, Reserved Instance discounts, and Savings Plans. This can result in a lower charge for your project, department, or company than with individual standalone accounts.

• **No extra fee** – Consolidated billing is offered at no additional cost.

A company is interested in moving its on-premises NoSQL database into the AWS Cloud.

Which AWS service should the company use to replace their existing database?

#### Explanation

Amazon DynamoDB is a fully managed, serverless, key-value NoSQL database designed to run high-performance applications at any scale. DynamoDB offers built-in security, continuous backups, automated multi-Region replication, in-memory caching, and data export tools. When you hear of AWS Managed NoSQL databases, DynamoDB is the only acceptable choice.

According to the AWS Shared responsibility model, which two tasks are the responsibility of AWS? (Select TWO.)

#### Explanation

As part of the AWS Shared Responsibility Model, the customer does not have any insight into how physical infrastructure is managed or maintained. The customer is responsible for security in the cloud, whereas AWS are responsible for the security of the cloud.

Also, AWS customers have no insight into how Amazon S3 works behind the scenes, as Amazon S3 is a fully managed object storage service. Users simply use Amazon S3, and AWS manage all the infrastructure, OS patching and maintenance etc. for you.

Which Amazon EC2 tool acts as a virtual firewall to control inbound and outbound traffic to an EC2 instance?

#### Explanation

A security group acts as a virtual firewall, controlling the traffic that is allowed to reach and leave the resources that it is associated with. For example, after you associate a security group with an EC2 instance, it controls the inbound and outbound traffic for the instance.

A user has limited knowledge of AWS services, but wants to quickly deploy a scalable Node.js application in an Amazon VPC.

Which service should be used to deploy the application?

#### Explanation

AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

You can simply upload your code and Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring. At the same time, you retain full control over the AWS resources powering your application and can access the underlying resources at any time.

Which AWS service helps customers meet corporate, contractual, and regulatory compliance requirements for data security by using dedicated hardware appliances within the AWS Cloud?

#### Explanation

The AWS CloudHSM service helps you meet corporate, contractual, and regulatory compliance requirements for data security by using dedicated Hardware Security Module (HSM) instances within the AWS cloud. AWS CloudHSM enables you to easily generate and use your own encryption keys on the AWS Cloud.

A cloud practitioner needs to migrate a 70 TB of data from an on-premises data center into the AWS Cloud. The company has a slow and unreliable internet connection.

Which AWS service can the cloud practitioner leverage to transfer the data?

#### Explanation

AWS Snowball is a method of transferring the data using a physical device. A Snowball Edge device can hold up to 80 TB so a single device can be used. This transfer method completely avoids the slow and unreliable internet connection.

A Cloud Practitioner is re-architecting a monolithic application. Which design principles for cloud architecture do AWS recommend? (Select TWO.)

#### Explanation

Dependencies such as queuing systems, streaming systems, workflows, and load balancers are loosely coupled. Loose coupling helps isolate behavior of a component from other components that depend on it, increasing resiliency and agility

AWS recommend that you architect applications that scale horizontally to increase aggregate workload availability. This scaling should be automatic where possible.

A company needs a consistent and dedicated connection between AWS resources and an on-premise system.

Which AWS service can fulﬁl this requirement?

#### Explanation

An AWS Direct Connect connection is a private, dedicated link to AWS. As it does not use the internet, performance is consistent.

The following diagram shows how a corporate data center is connected to AWS using a Direct Connect link via an AWS Direct Connect location:

Which of the following best describes an Availability Zone in the AWS Cloud?

#### Explanation

An Availability Zone (AZ) is one or more discrete data centers with redundant power, networking, and connectivity in an AWS Region. AZ’s give customers the ability to operate production applications and databases that are more highly available, fault tolerant, and scalable than would be possible from a single data center.

How can an organization take advantage of tiered pricing across multiple business units within an organization?

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts. This can be used for multiple business units within an organization.

Consolidated billing has the following benefits:

* **One bill** – You get one bill for multiple accounts.
* **Easy tracking** – You can track the charges across multiple accounts and download the combined cost and usage data.
* **Combined usage** – You can combine the usage across all accounts in the organization to share the volume pricing discounts, Reserved Instance discounts, and Savings Plans. This can result in a lower charge for your project, department, or company than with individual standalone accounts.
* **No extra fee** – Consolidated billing is offered at no additional cost.

Consolidated billing includes:

· **Paying Account** – independent and cannot access resources of other accounts

· **Linked Accounts** – all linked accounts are independent

**QUESTION 3 PHASE 3**

A company has been using an AWS managed IAM policy for granting permissions to users but needs to add some permissions.

How can this be achieved?

#### Explanation

AWS managed policies cannot be edited so if you need to add permissions to users that are not granted in the policy you must create your own custom IAM policy.

**CORRECT:** "Create a custom IAM policy" is the correct answer.

Question 2: Correct

It is important for users to have access to as many resources as they need. Also, the user needs the ability to scale up and down quickly.

These capabilities are described by which AWS Cloud benefit?

#### Explanation

Elasticity is the ability to acquire resources as you need them and release resources when you no longer need them. This would allow users to scale up and down quickly.

**CORRECT:** "Elasticity" is the correct answer (as explained above.)

A company needs to invoke an AWS Step Functions workflow each time an Amazon EC2 instance state changes.

Which AWS service can the company use to meet this requirement?

#### Explanation

Amazon EventBridge is a serverless event bus that makes it easier to build event-driven applications at scale using events generated from your applications. You can set rules for actions to take place when certain events happen, like instance state changes, items are uploaded to an S3 bucket etc

**CORRECT:** "Amazon EventBridge" is the correct answer (as explained above.)

Question 4: Correct

A company needs to optimize costs and resource usage through monitoring of operational health for all resources running on AWS.

Which AWS service will meet these requirements?

#### Explanation

Amazon CloudWatch is a performance monitoring tool that receives metrics from AWS services. This data can be used for monitoring the operational health of resources as well as being used to optimize costs through ensuring systems are right-sized and just enough capacity is provisioned.

**CORRECT:** "Amazon CloudWatch" is the correct answer.

AWS Direct Connect is used by a company that wants to establish connectivity across multiple AWS Regions using VPCs.

Which AWS service or feature should the company use to meet these requirements?

#### Explanation

AWS Transit Gateway connects your Amazon Virtual Private Clouds (VPCs) and on-premises networks through a central hub. This simplifies your network and puts an end to complex peering relationships. It acts as a cloud router – each new connection is only made once.

As you expand globally, inter-Region peering connects AWS Transit Gateways together using the AWS global network. Your data is automatically encrypted and never travels over the public internet.

**CORRECT:** "AWS Transit Gateway" is the correct answer (as explained above.)

An organization recently migrated to AWS and wants to enable intelligent threat protection and continuous monitoring across all its accounts.

Which AWS service should the company use to achieve this goal?

#### Explanation

Amazon GuardDuty is a threat detection service that continuously monitors your AWS accounts and workloads for malicious activity and delivers detailed security findings for visibility and remediation.

**CORRECT:** "Amazon GuardDuty" is the correct answer (as explained above.)

Question 7: Incorrect

A company currently uses a Security Assertion Markup Language (SAML) based application to log in to third-party business applications and would like to have this hosted in AWS using managed services.

Which AWS service will meet this requirement?

#### Explanation

Amazon Cognito lets you add user sign-up, sign-in, and access control to your web and mobile apps quickly and easily. Amazon Cognito scales to millions of users and supports sign-in with social identity providers, such as Apple, Facebook, Google, and Amazon, and enterprise identity providers via SAML 2.0 and OpenID Connect.

**CORRECT:** "Amazon Cognito" is the correct answer (as explained above.)

A company has many different business units all using the same AWS services to manage their different applications.

Which AWS service or tool can the company use to receive volume discounts across multiple AWS accounts?

#### Explanation

You can use the consolidated billing feature in AWS Organizations to consolidate billing and payment for multiple AWS accounts. Every organization in AWS Organizations has a management account that pays the charges of all the member accounts. With consolidated billing you can take advantage of cost savings for services that have tiered licensing models.

**CORRECT:** "AWS Organizations" is the correct answer (as explained above.)

Under the AWS shared responsibility model, which of the following is an example of customer responsibility in the AWS Cloud?

#### Explanation

Firewall configuration is an example of “security in the cloud”. This is the customer’s responsibility, not an AWS responsibility.

**CORRECT:** "Firewall conﬁguration" is the correct answer.

What are the benefits of using Amazon Rekognition with image files?

#### Explanation

Rekognition Image is a deep learning powered image recognition service that detects objects, scenes, and faces; extracts text; recognizes celebrities; and identifies inappropriate content in images. It also allows you to search and compare faces.

**CORRECT:** "Can be used to identify objects in an image" is the correct answer.

An Amazon EC2 instance running the Amazon Linux 2 AMI is billed in what increment?

#### Explanation

Amazon EC2 instances running Linux are billed in one second increments, with a minimum of 60 seconds.

**CORRECT:** "Per second" is the correct answer.

A company plans to connect their on-premises data center to the AWS Cloud and requires consistent bandwidth and performance.

Which AWS service should the company choose?

#### Explanation

AWS Direct Connect is a cloud service solution that makes it easy to establish a dedicated network connection from your premises to AWS. Using AWS Direct Connect, you can establish private connectivity between AWS and your datacenter, office, or colocation environment, which in many cases can reduce your network costs, increase bandwidth throughput, and provide a more consistent network experience than Internet-based connections.

**CORRECT:** "AWS Direct Connect" is the correct answer.

How does Amazon EC2 Auto Scaling help with resiliency?

#### Explanation

Amazon EC2 Auto Scaling launches and terminates instances as demand changes. This helps with resiliency and high availability as it can also be set to ensure a minimum number of instances are always available.

**CORRECT:** "By launching and terminating instances as needed" is the correct answer.

Associated

#### Explanation

Edge Locations are parts of the Amazon CloudFront content delivery network (CDN) that are all around the world and are used to get content closer to end-users for better performance.

AWS Shield which protects against Distributed Denial of Service (DDoS) attacks is available globally on Amazon CloudFront Edge Locations.

**CORRECT:** "Amazon CloudFront" is a correct answer.

**CORRECT:** "AWS Shield" is also a correct answer.

Question 15: Correct

Which service allows an organization to view operational data from multiple AWS services through a unified user interface and automate operational tasks?

#### Explanation

AWS Systems Manager gives you visibility and control of your infrastructure on AWS. Systems Manager provides a unified user interface so you can view operational data from multiple AWS services and allows you to automate operational tasks across your AWS resources.

**CORRECT:** "AWS Systems Manager" is the correct answer.

A user needs a quick way to determine if any Amazon EC2 instances have ports that allow unrestricted access.

Which AWS service will support this requirement?

#### Explanation

Access to the ports on an Amazon EC2 instance is controlled through security groups. AWS Trusted Advisor scans the security groups in your account to see if any security groups allow unrestricted access to any ports. This information is then presented to you in the console and you can then act on this information to secure the ports through editing the rules in the security group.

**CORRECT:** "AWS Trusted Advisor" is the correct answer.

Which AWS service or VPC component allows inbound traffic from the internet to access a VPC?

#### Explanation

An Internet gateway is attached to a VPC and allows inbound traffic from the internet to access the VPC. It is also used as a target in route tables for outbound internet traffic.

**CORRECT:** "Internet gateway" is the correct answer.

An ecommerce company is using Auto Scaling groups to manage a group of web servers running on Amazon EC2 and are additionally placed behind an Elastic Load balancer.

This architecture follows which AWS Well-Architected Framework best practice?

#### Explanation

Designing for failure is an important part of architecting for cloud workloads and the easiest way to do this when using Amazon EC2 instances is to put the within an Auto Scaling group and then place them behind an Elastic Load balancer.

An Auto Scaling group contains a collection of EC2 instances that are treated as a logical grouping for the purposes of automatic scaling and management. An Auto Scaling group also enables you to use Amazon EC2 Auto Scaling features such as health check replacements and scaling policies. Both maintaining the number of instances in an Auto Scaling group and automatic scaling are the core functionality of the Amazon EC2 Auto Scaling service.

An Elastic load balancer distributes the load to each of these web servers in a distributed manner, allowing for scalable and flexible architecture.

The combination of both features of Amazon EC2 will enable high availability and is an example of designing for failure.

**CORRECT:** "Design for failure" is the correct answer (as explained above.)

Under the AWS shared responsibility model, which actions are the responsibility of AWS? (Select TWO.)

#### Explanation

Scanning endpoints owned by AWS sits firmly under AWS’s responsibility, as you as an AWS user do not have access or insight into how AWS private endpoints work behind the scenes. This is abstracted away from the end user meaning it sits under the sole responsibility of AWS.  
As for encrypting traffic on the AWS backbone, as the lines and the network is solely owned and operated by AWS, it is AWS’s responsibility to maintain the security of it. This sits under security of the cloud vs in the cloud.

**CORRECT:** "Scanning AWS service endpoints for vulnerabilities" is the correct answer (as explained above.)

**CORRECT:** "Encrypting traffic on the AWS backbone between global and regional AWS facilities" is also a correct answer (as explained above.)

Your CTO wants to move to cloud. What cost advantages are there to moving to cloud?

#### Explanation

One of the best benefits of cloud is that you can launch what you need to and automatically adjust your resources as demand changes. This means you only ever pay for what you’re using.

**CORRECT:** "You provision only what you need and adjust to peak load" is the correct answer.

What AWS service decouples application components so that they can run independently?

#### Explanation

Amazon Simple Queue Service (SQS) is a fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications. SQS eliminates the complexity and overhead associated with managing and operating message-oriented middleware and empowers developers to focus on differentiating work.

**CORRECT:** "Amazon Simple Queue Service (SQS)" is the correct answer (as explained above.)

How can a company separate costs for storage, Amazon EC2, Amazon S3, and other AWS services by department?

#### Explanation

A tag is a label that you or AWS assigns to an AWS resource. Each tag consists of a key and a value. For each resource, each tag key must be unique, and each tag key can have only one value.

You can use tags to organize your resources, and cost allocation tags to track your AWS costs on a detailed level. After you activate cost allocation tags, AWS uses the cost allocation tags to organize your resource costs on your cost allocation report, to make it easier for you to categorize and track your AWS costs.

AWS provides two types of cost allocation tags, an AWS generated tags and user-defined tags. AWS defines, creates, and applies the AWS generated tags for you, and you define, create, and apply user-defined tags. You must activate both types of tags separately before they can appear in Cost Explorer or on a cost allocation report.

**CORRECT:** "Add department-speciﬁc tags to each resource" is the correct answer.

Which service can be used to cost-effectively move exabytes of data into AWS?

#### Explanation

With AWS Snowmobile you can move 100PB per snowmobile. AWS call this an “Exabyte-scale data transfer service”.

**CORRECT:** "AWS Snowmobile" is the correct answer.

An organization is considering implementing a new workload in the AWS Cloud. However, the company first wants to forecast costs.

Which tool should the company use to estimate the cost of the workload?

#### Explanation

AWS Pricing Calculator is a web-based planning tool that you can use to create estimates for your AWS use cases. You can use it to model your solutions before building them, explore the AWS service price points, and review the calculations behind your estimates. You can use it to help you plan how you spend, find cost saving opportunities, and make informed decisions when using Amazon Web Services.

**CORRECT:** "AWS Pricing Calculator" is the correct answer (as explained above.)

Which pillar of the AWS Well-Architected Framework includes the design principle of defining workloads, applications, and infrastructure as code (IaC)?

#### Explanation

There are five design principles for operational excellence in the cloud, the first one is:

**Perform operations as code:** In the cloud, you can apply the same engineering discipline that you use for application code to your entire environment. You can define your entire workload (applications, infrastructure) as code and update it with code. You can implement your operations procedures as code and automate their execution by triggering them in response to events. By performing operations as code, you limit human error and enable consistent responses to events.

**CORRECT:** "Operational excellence" is the correct answer (as explained above.)

AWS Global Infrastructure consists of which of the following components?

#### Explanation

AWS has the concept of a Region, which is a physical location around the world where we cluster Availability Zones. Each AWS Region consists of multiple, isolated, and physically separate AZs within a geographic area. This is a key part of the AWS Global Infrastructure.

**CORRECT:** "AWS Regions" is the correct answer (as explained above.)

What is a benefit of moving an on-premises database to Amazon Relational Database Service (RDS)?

#### Explanation

With Amazon RDS, which is a managed service, you do not need to manage operating systems. This reduces operational costs.

**CORRECT:** "There is no need to manage operating systems" is the correct answer.

Which of the following are advantages of the AWS Cloud? (Select TWO.)

#### Explanation

When you are using the Cloud and migrating your workloads out of your own data centers, you can stop spending money on the maintenance of data centers.  
Also, the cloud allows you to stop guessing your resource capacity ahead of time as you do not need to provision capacity ahead of time.

**CORRECT:** "Users can stop spending money on the maintenance of data centers" is the correct answer (as explained above.)

**CORRECT:** "Users can stop guessing about resource capacity" is also a correct answer (as explained above.)

Which authentication method is used to authenticate programmatic calls to AWS services?

#### Explanation

Access keys are a combination of an access key ID and a secret access key. They are used to make programmatic calls to AWS using the API.

**CORRECT:** "Access keys" is the correct answer.

Which IAM entity can be used for assigning permissions to AWS services?

#### Explanation

With IAM Roles you can delegate permissions to resources for users and services without using permanent credentials (e.g. username and password). To do so you can create a role and assign an IAM policy to the role that has the permissions required.

**CORRECT:** "IAM Role" is the correct answer.

A company requires a single service which can manage their backup and restore requirements, their data lakes, and archives all in one place.

Which AWS service is suitable for all these use cases?

#### Explanation

Amazon S3 is the only service out of the answers which can be used for backup and restore, data lakes and archival solutions. Because S3 is an object storage service, there are lots of different use cases.

**CORRECT:** "Amazon Simple Storage Service (Amazon S3)" is the correct answer (as explained above.)

A company has a website that delivers static content from an Amazon S3 bucket to users from around the world. Which AWS service will deliver the content with low latency?

#### Explanation

Amazon CloudFront is a content delivery network (CDN) and can use an Amazon S3 bucket configured as a static website as an origin for the content is caches globally. CloudFront reduces latency for global users by serving the requested content from a local cache.

**CORRECT:** "Amazon CloudFront" is the correct answer.

Are there any AWS services or features that will identify and search for externally shared AWS resources?

#### Explanation

Access Analyzer helps you identify the resources in your organization and accounts, such as Amazon S3 buckets or IAM roles, shared with an external entity. This lets you identify unintended access to your resources and data, which is a security risk.

**CORRECT:** "AWS IAM Access Analyzer" is the correct answer (as explained above.)

How can a user block a suspicious IP address from connecting to an Amazon EC2 instance?

#### Explanation

With a Network ACL you can block a specific IP address that would be coming inbound into your subnet. This would prevent a specific IP from gaining access if you suspected them of being a bad actor.

The table below shows the key differences between Network ACLs and Security Groups:

**CORRECT:** "Block the IP on the inbound rule of a network ACL” is the correct answer (as explained above.)

How does the AWS global infrastructure offer high availability and fault tolerance to customers?

#### Explanation

AWS has the concept of a Region, which is a physical location around the world where we cluster data centers. We call each group of logical data centers an Availability Zone. Each AWS Region consists of multiple, isolated, and physically separate AZs within a geographic area. Each Region and each AZ is fully redundant from one another, meaning a failure in one AZ / Region will not impact another Region or AZ.

**CORRECT:** "The AWS infrastructure consists of isolated AWS Regions with independent Availability Zones that are connected with low-latency networking and redundant power supplies" is the correct answer (as explained above.)

What are the benefits of using reserved instances? (Select TWO.)

#### Explanation

With reserved instances you commit to a 1- or 3-year term and get a significant discount from the on-demand rate. You can also reserve capacity in an availability zone with reserved instances.

**CORRECT:** "Reduced cost" is a correct answer.

**CORRECT:** "Reserve capacity" is also a correct answer.

How does Amazon CloudFront deliver content to end users with low latency using the AWS global infrastructure?

#### Explanation

Amazon CloudFront is a web service that speeds up distribution of your static and dynamic web content, such as .html, .css, .js, and image files, to your users. CloudFront delivers your content through a worldwide network of data centers called edge locations. When a user requests content that you're serving with CloudFront, the request is routed to the edge location that provides the lowest latency (time delay), so that content is delivered with the best possible performance.

**CORRECT:** "Edge locations" is the correct answer (as explained above.)

Which of the below is an example of an architectural benefit of moving to the cloud?

#### Explanation

A key architectural benefit of moving to the cloud is that you get elasticity. This means your applications can scale as demand increases and scale back as demand decreases. This reduces cost as you only pay for what you use, when you need it.

**CORRECT:** "Elasticity" is the correct answer.

What is a specific benefit of an Enterprise Support plan?

#### Explanation

Only the Enterprise Support plan gets a Technical Account Manager (TAM).

You do not get an AWS Solutions Architect with any plan.

Cloud Support Associates are provided in the Developer plan.

There’s no such thing as a Technical Support Manager in the AWS support plans.

**CORRECT:** "Included Technical Account Manager" is the correct answer.

Which Amazon EC2 pricing model is the most cost-effective for an always-up, right-sized database server running a project that will last 1 year?

#### Explanation

Reserved Instances (RIs) provide you with a significant discount (up to 72%) compared to On-Demand instance pricing. Standard reserved instances offer the most cost savings. RIs are based on a 1 or 3 year contract so they are suitable for workloads that will run for the duration of the contract period.

**CORRECT:** "Standard Reserved Instances" is the correct answer.

Which AWS service can be used to track the activity of users on AWS?

#### Explanation

AWS CloudTrail is a service that enables governance, compliance, operational auditing, and risk auditing of your AWS account. With CloudTrail, you can log, continuously monitor, and retain account activity related to actions across your AWS infrastructure.

Think of CloudTrail is an auditing service (who did what and when), and CloudWatch as a performance monitoring service (how much resource was used).

**CORRECT:** "AWS CloudTrail" is the correct answer.

Which AWS service or feature can be used to capture information about inbound and outbound IP traffic on network interfaces in a VPC?

#### Explanation

VPC Flow Logs is a feature that enables you to capture information about the IP traffic going to and from network interfaces in your VPC. Flow log data can be published to Amazon CloudWatch Logs or Amazon S3. After you've created a flow log, you can retrieve and view its data in the chosen destination.

Flow logs can help you with a number of tasks, such as:

  • Diagnosing overly restrictive security group rules

  • Monitoring the traffic that is reaching your instance

  • Determining the direction of the traffic to and from the network interfaces

Flow log data is collected outside of the path of your network traffic, and therefore does not affect network throughput or latency. You can create or delete flow logs without any risk of impact to network performance.

**CORRECT:** "VPC Flow Logs" is the correct answer.

Which IAM entity can be used for assigning permissions to multiple users?

#### Explanation

Groups are collections of users and have policies attached to them. You can use groups to assign permissions to multiple users. To do this place the users in the group and then create an IAM policy with the correct permissions and attach it to the group.

You do not use an IAM User, Role, or password policy to assign permissions to multiple users.

**CORRECT:** "IAM Group" is the correct answer.

Which of the following is an advantage of AWS Cloud computing?

#### Explanation

Trading capital expenditure for operational expenditure is an advantage of the cloud. When you are using the cloud, you do not have to worry about any upfront costs. The billing model is different in that you pay monthly instead of upfront.

**CORRECT:** "Trade fixed expenses for variable expenses” is the correct answer (as explained above.)

A company has 50 different business units and requires that each business unit's billing information is viewed separately.

What should a cloud practitioner recommend?

#### Explanation

By using Tags, you can apply metadata to application components aligning each component to an application. You can then filter based on these tags within AWS Cost Explorer to see easily how much each application costs. This is the easiest way to achieve the requirements out of the options.

**CORRECT:** "Tag each business unit's resources, then filter by unit in Cost Explorer" is the correct answer (as explained above.)

A security operations engineer needs to implement threat detection and monitoring for malicious or unauthorized behavior. Which service should be used?

#### Explanation

Amazon GuardDuty offers threat detection and continuous security monitoring for malicious or unauthorized behavior to help you protect your AWS accounts and workloads.

**CORRECT:** "AWS GuardDuty" is the correct answer.

Which AWS service provides on-demand downloads of AWS security and compliance reports?

#### Explanation

AWS Artifact is the go-to, central resource for compliance-related information that matters to you. It provides on-demand access to AWS’ security and compliance reports and select online agreements.

Reports available in AWS Artifact include Service Organization Control (SOC) reports, Payment Card Industry (PCI) reports, and certifications from accreditation bodies across geographies and compliance verticals that validate the implementation and operating effectiveness of AWS security controls.

**CORRECT:** "AWS Artifact" is the correct answer.

Which of the following are advantages of the AWS Cloud? (Select TWO.)

#### Explanation

Economies of scales refers to the fact that because AWS has a global customer base, they can afford to sell much cheaper to any one customer. This is a benefit of being on the cloud and the customer number keeps increasing, and the price keeps going down as a result.

Also as AWS have Regions placed all over the globe, there is a large degree of choice you have in where your applications are launched. In a traditional IT environment this would have been a big problem, and it would have been a logistical nightmare launching an application across multiple Regions.

**CORRECT:** "High economies of scale" is the correct answer (as explained above.)

**CORRECT:** "Launch globally in minutes" is also a correct answer (as explained above.)

What technology enables compute capacity to adjust as loads change?

#### Explanation

Auto Scaling allows the dynamic adjustment of provisioned resources based on demand. For instance, you can use Amazon EC2 Auto Scaling to launch additional EC2 instances when CloudWatch metrics report the CPU utilization has reached a certain threshold.

**CORRECT:** "Auto Scaling" is the correct answer.

A new web application is being developed by a company. Logging into the application through a social identity provider is a must have requirement for the company.

Which AWS service will meet these requirements?

#### Explanation

Amazon Cognito lets you add user sign-up, sign-in, and access control to your web and mobile apps quickly and easily. Amazon Cognito scales to millions of users and supports sign-in with social identity providers, such as Apple, Facebook, Google, and Amazon, and enterprise identity providers via SAML 2.0 and OpenID Connect.

**CORRECT:** "Amazon Cognito" is the correct answer (as explained above.)

An architecture's ability to withstand failures with minimal downtime demonstrates which AWS Cloud benefit?

#### Explanation

A high availability computing infrastructure continues to function even when some of its components fail. Mission-critical systems cannot tolerate interruptions in service, and any downtime can result in damage or financial losses.

**CORRECT:** "High Availability" is the correct answer (as explained above.)

An IT company has deployed its infrastructure on the AWS cloud. There must be a database that supports reads with a latency of under a millisecond for critical applications.

Which AWS service will meet this requirement?

#### Explanation

Amazon ElastiCache s is a blazing fast in-memory data store that provides sub-millisecond latency to power internet-scale real-time applications. Built on open-source Redis or Memcached, ElastiCache works seamlessly with Redis or Memcached without any code changes.

**CORRECT:** "Amazon ElastiCache" is the correct answer (as explained above.)

You have been running an on-demand Amazon EC2 instance running Linux for 4hrs, 5 minutes and 6 seconds. How much time will you be billed for?

#### Explanation

On-demand, Reserved and Spot Amazon EC2 Linux instances are charged per second with a minimum charge of 1 minute. Therefore, as the minimum has been exceeded, exactly 4hrs, 5mins and 6 seconds will be charged.

**CORRECT:** "4hrs, 5mins, and 6 seconds" is the correct answer.

Which IAM entity is associated with an access key ID and secret access key?

#### Explanation

An access key ID and secret access key are used to sign programmatic requests to AWS. They are associated with an IAM user.

You cannot associate an access key ID and secret access key with an IAM Group, Role or Policy.

**CORRECT:** "IAM User" is the correct answer.

Which AWS service or feature can be used to restrict the individual API actions that users and roles in each member account can access?

#### Explanation

AWS Organizations offers Service control policies (SCPs) which are a type of organization policy that you can use to manage permissions in your organization. SCPs offer central control over the maximum available permissions (API actions) for all accounts in your organization. SCPs help you to ensure your accounts stay within your organization’s access control guidelines. SCPs are available only in an organization that has all features enabled.

**CORRECT:** "AWS Organizations" is the correct answer.

Which AWS services can be used as infrastructure automation tools? (Select TWO.)

#### Explanation

AWS CloudFormation provides a common language for you to model and provision AWS and third party application resources in your cloud environment. AWS CloudFormation allows you to use programming languages or a simple text file to model and provision, in an automated and secure manner, all the resources needed for your applications across all regions and accounts.

AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet. Chef and Puppet are automation platforms that allow you to use code to automate the configurations of your servers. OpsWorks lets you use Chef and Puppet to automate how servers are configured, deployed, and managed across your [Amazon EC2](https://aws.amazon.com/ec2/) instances or on-premises compute environments.

**CORRECT:** "AWS CloudFormation" is a correct answer.

**CORRECT:** "AWS OpsWorks" is also a correct answer.

To gain greater discounts, which services can be reserved? (Select TWO.)

#### Explanation

Reservations provide you with greater discounts, up to 75%, by paying for capacity ahead of time. Some of the services you can reserve include: EC2, DynamoDB, ElastiCache, RDS, and RedShift.

**CORRECT:** "Amazon RedShift" is a correct answer.

**CORRECT:** "Amazon DynamoDB" is also a correct answer.

A company has a mission critical Linux-based application. The application must run every Monday from 6 AM until 10pm. As the application is critical, it cannot be interrupted.

Which Amazon EC2 instance purchasing option meets these requirements MOST cost-effectively?

#### Explanation

On-Demand Capacity Reservation with Savings Plan is ideal in this scenario as the application will have predictable running times (every Monday from 6am till 10pm). It is also mission critical, so reserving the capacity within an Availability Zone using On-Demand Capacity Reservation with Savings Plan makes perfect sense. The savings plans will also make this application cost-effective whilst still maintaining the guaranteed availability that you cannot get with spot instances.

**CORRECT:** "On-Demand Capacity Reservation with Savings Plan" is the correct answer (as explained above.)

A manager is planning to migrate applications to the AWS Cloud and needs to obtain AWS compliance reports.

How can these reports be generated?

#### Explanation

AWS Artifact is your go-to, central resource for compliance-related information that matters to you. It provides on-demand access to AWS’ security and compliance reports and select online agreements.

Reports available in AWS Artifact include Service Organization Control (SOC) reports, Payment Card Industry (PCI) reports, and certifications from accreditation bodies across geographies and compliance verticals that validate the implementation and operating effectiveness of AWS security controls.

Agreements available in AWS Artifact include the Business Associate Addendum (BAA) and the Nondisclosure Agreement (NDA).

**CORRECT:** "Download the reports from AWS Artifact" is the correct answer.

Which service can be used to easily create multiple accounts?

#### Explanation

AWS Organizations can be used for automating AWS account creation via the Organizations API.

**CORRECT:** "AWS Organizations" is the correct answer.

How can an organization track resource inventory and configuration history for the purpose of security and regulatory compliance?

#### Explanation

AWS Config is a fully-managed service that provides you with an AWS resource inventory, configuration history, and configuration change notifications to enable security and regulatory compliance.

**CORRECT:** "Configure AWS Config with the resource types" is the correct answer.

Which AWS tools can be used for automation? (Select TWO.)

#### Explanation

AWS Elastic Beanstalk and AWS CloudFormation are both examples of automation. Beanstalk is a platform service that leverages the automation capabilities of CloudFormation to build out application architectures.

**CORRECT:** "AWS Elastic Beanstalk" is a correct answer.

**CORRECT:** "AWS CloudFormation" is also a correct answer.

After an organization has migrated several servers into AWS, they are unsure as to what they must directly manage themselves.

Which cost is the company's direct responsibility?

#### Explanation

Licensing costs for applications still is part of the customer responsibility, as AWS only looks after the infrastructure which the applications are running on. The application layer itself is managed entirely by the customer - not AWS.

**CORRECT:** "Cost of application software licenses" is the correct answer (as explained above.)

An organization moves a workload to Amazon EC2 instances on AWS. Cost-effectiveness is the key to running the workload properly in the Cloud.

What can the company do to meet this requirement?

#### Explanation

Rightsizing EC2 instances simply means making sure that the instances you are using are not too large or too small for the workloads they are running. The part of this which is related to cost optimization is ensuring that the EC2 instances provisioned are not too small for the workloads (i.e. you need a m5.2xlarge and you are using an m5.4xlarge instance type. As you simply get billed for the instance you are using and not how many VCPUs you are using, right sizing is a powerful way to optimize cost.

AWS Compute Optimizer is a useful tool that uses machine learning to report on overutilization and underutilization of resources. You can use Compute Optimizer to gather the information needed to rightsize your workloads.

**CORRECT:** "Rightsize all the EC2 instances that are used in the deployment" is the correct answer (as explained above.)

Which AWS Support plan provides access to architectural and operational reviews, as well as 24/7 access to Cloud Support Engineers through email, online chat, and phone?

#### Explanation

Only the enterprise plan provides Well-Architected Reviews and Operational Reviews. 24/7 access to Cloud Support Engineers through email, online chat, and phone is offered on the business and enterprise plans.

**CORRECT:** "Enterprise" is the correct answer.