1- A- By the time it takes for the Lambda function to run

Lambda charges are dependent on the amount of time it takes to run the code.

C-By the number of requests made for a given Lambda function

Lambda charges are dependent on the number of requests for your Lambda functions.

2- B-Reliability

The reliability pillar includes the ability of a workload to perform its intended function correctly and consistently when it is expected to do so. The deployment of Amazon RDS in multiple Availability Zones supports the goal of reliability because it reduces single points of failure.

Key: Multiple AZ

3- A-An access key ID

C-A secret access key

Key: programmatic access

4- D-Amazon CloudFront

CloudFront is a web service that speeds up the distribution of your static and dynamic web content, such as .html, .css, .js, and image files, to your users. Content is cached in edge locations. Content that is repeatedly accessed can be served from the edge locations instead of the source S3 bucket.

Key: static website

5- B-Create an organization in AWS Organizations with all features enabled within one account. Invite all accounts to join the organization.

Organizations provides centralized governance and billing for an AWS environment, including multiple accounts.

Key: centralize departmental governance and consolidate payments

6- D-AWS Site-to-Site VPN

Site-to-Site VPN creates an encrypted network path between your on-premises network and your AWS Cloud network. This connection between your on-premises network and your AWS Cloud network uses the internet.

Key: must use the company's existing internet connection.

7- B-An object store

Amazon S3 is an object storage service.

E-A durable storage system

Amazon S3 is a durable object storage service.

8- B-Amazon Macie

Key: sensitive data stored in Amazon S3

9- D-Spot Instances

With Spot Instances, you can access unused EC2 capacity. Spot Instances can be discounted.

Key: purchase unused Amazon EC2 capacity

10- C-AWS Application Migration Service (AWS MGN)

AWS MGN is an automated lift-and-shift solution. This solution can migrate physical servers and any databases or applications that run on them to EC2 instances in AWS.

Key: Linux-based server, migrate the database server, run on an Amazon EC2 instance

11- C-AWS Direct Connect

Direct Connect links your internal network to a Direct Connect location through a standard Ethernet fiber-optic cable. One end of the cable connects to your router. The other end of the cable connects to a Direct Connect router. AWS Direct Connect is consistent and private because your company is the only user of the cable.

Key: consistent and private connection, dedicated

12- A-Companies can deploy applications in multiple AWS Regions to reduce latency.

The use of Regions around the world will improve an application's global performance and reduce latency for users.

C-Amazon CloudFront has multiple edge locations around the world to reduce latency.

CloudFront is a content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to global customers with low latency and high transfer speeds.

Key: many countries around the world

13- B-Amazon Polly

Amazon Polly is a machine learning service that converts text to speech. This service provides the ability to read text out loud.

Key: text read out loud

14- B-Business

You can call or chat with technical support by using the Business Support plan or the Enterprise Support plan. The Business Support plan is the minimum plan that provides this feature.

15- A-Preventing a single point of failure

The deployment of the EC2 instances in multiple Availability Zones prevents a single point of failure. Availability Zones are designed for physical redundancy and to provide resilience with uninterrupted performance.

D-Increasing the availability of the application

If you host all your instances in a single location that is affected by a failure, none of your instances would be available. Availability Zones are designed for physical redundancy and to provide resilience with uninterrupted performance.

Key:multi AZ

16- A-Amazon CloudWatch

CloudWatch monitors your AWS resources and the applications that you run on AWS in real time. You can use CloudWatch with AWS CloudTrail to monitor and receive alerts about console sign-in events that involve the AWS account root user.

Key: monitor and receive alerts

17- D-AWS CodeCommit

CodeCommit is a source code version control service. CodeCommit helps users store and manage developers' source code in AWS.

Key: source code

18- A-AWS Trusted Advisor

Trusted Advisor checks security groups for rules that allow unrestricted access to a resource. Unrestricted access increases opportunities for malicious activity, such as hacking, denial-of-service attacks, or loss of data.

19- D-Configure IAM users according to the principle of least privilege.

AWS provides AWS Identity and Access Management (IAM) as a service. The customer defines IAM users and the access policies that apply to those users.

E-Configure an Amazon S3 bucket to allow public access.

The customer determines access permissions to S3 buckets that the customer owns.

20- C-Amazon Aurora

Aurora is a MySQL- and PostgreSQL-compatible relational database built for the cloud. Aurora combines the performance and availability of traditional enterprise databases with the simplicity and cost-effectiveness of open source databases.

Key: relational database

21- D-On-demand delivery of IT resources and applications through the internet with pay-as-you-go pricing

22- A-Private cloud deployment

* Cloud-based applications are fully deployed in the cloud and do not have any parts that run on premises.
* A hybrid deployment connects infrastructure and applications between cloud-based resources and existing resources that are not in the cloud, such as on-premises resources. However, a hybrid deployment is not equivalent to an on-premises deployment because it involves resources that are located in the cloud.
* The AWS Cloud offers three cloud deployment models: cloud, hybrid, and on-premises. This response option is incorrect because the AWS Cloud is not equivalent to only an on-premises deployment.

23- B-The aggregated cloud usage from a large number of customers results in lower pay-as-you-go prices.

This answer describes how customers can benefit from massive economies of scale in cloud computing.

The other response options are incorrect because:

* Not having to invest in technology resources before using them relates to *Trade upfront expense for variable expense*.
* Accessing services on-demand to prevent excess or limited capacity relates to *Stop guessing capacity*.
* Quickly deploying applications to customers and providing them with low latency relates to *Go global in minutes*.

24- B-Storage optimized

Key: data warehousing

25- C-General purpose

Key: balances

26- A-Memory optimized

Key: high-performance databases

27- D-Compute optimized

Key: high-performance processors

28- D-Standard Reserved Instances

Standard Reserved Instances require you to specify:

* instance family and size
* platform description
* tenancy
* Region

Your specified amount of EC2 instances are covered over a 1-year or 3-year term.

29- B-EC2 Instance Savings Plans

EC2 Instance Savings Plans reduce your EC2 instance costs when you make an hourly spend commitment to an instance family and Region for a 1-year or 3-year term.

Key: hourly spend commitment

30- C-Amazon Simple Notification Service (Amazon SNS)

Amazon SNS is a publish/subscribe service. Using Amazon SNS topics, a publisher publishes messages to subscribers.

The other response options are incorrect because:

* Amazon Simple Queue Service (Amazon SQS) is a message queuing service. It does not use the message subscription and topic model that is involved with Amazon SNS.
* Amazon EC2 Auto Scaling enables you to automatically add or remove Amazon EC2 instances in response to changing application demand.
* Elastic Load Balancing is the AWS service that automatically distributes incoming application traffic across multiple resources, such as Amazon EC2 instances.

Keys: publishing messages, subscribers

31- C-Compute optimized

* General purpose instances provide a balance of compute, memory, and networking resources. This instance family would not be the best choice for the application in this scenario. Compute optimized instances are more well suited for batch processing workloads than general purpose instances.
* Memory optimized instances are more ideal for workloads that process large datasets in memory, such as high-performance databases.
* Storage optimized instances are designed for workloads that require high, sequential read and write access to large datasets on local storage. The question does not specify the size of data that will be processed. Batch processing involves processing data in groups. A compute optimized instance is ideal for this type of workload, which would benefit from a high-performance processor.

Key: batch processing

32- A-1 year

C-3 years

Reserved Instances require a commitment of either 1 year or 3 years. The 3-year option offers a larger discount.

33- B-Spot Instance

* Reserved Instances require a contract length of either 1 year or 3 years. The workload in this scenario will only be running for 6 months.
* Dedicated Instances run in a virtual private cloud (VPC) on hardware that is dedicated to a single customer. They have a higher cost than the other response options, which run on shared hardware.
* On-Demand Instances fulfill the requirements of running for only 6 months. However, a Spot Instance would be the best choice because it does not require a minimum contract length, is able to withstand interruptions, and costs less than an On-Demand Instance.

Key: can withstand interruptions, most cost-efficient

34- A-Ensuring that no single Amazon EC2 instance has to carry the full workload on its own

Elastic Load Balancing is the AWS service that automatically distributes incoming application traffic across multiple resources, such as Amazon EC2 instances. This helps to ensure that no single resource becomes overutilized.

The other response options are all examples of Auto Scaling.

35- D-Amazon Elastic Kubernetes Service (Amazon EKS)

Amazon EKS is a fully managed Kubernetes service. Kubernetes is open-source software that enables you to deploy and manage containerized applications at scale.

The other response options are incorrect because:

* AWS Lambda is a service that lets you run code without provisioning or managing servers.
* Amazon Simple Queue Service (Amazon SQS) is a service that enables you to send, store, and receive messages between software components through a queue.
* Amazon Simple Notification Service (Amazon SNS) is a publish/subscribe service. Using Amazon SNS topics, a publisher publishes messages to subscribers.

36- B-A single data center or group of data centers within a Region

The other response options are incorrect because:

* A Region is a geographical area that contains AWS resources.
* An edge location is a data center that an AWS service uses to perform service-specific operations. Edge locations are examined in the next section of this module.
* AWS Outposts is a service that you can use to run AWS infrastructure, services, and tools in your own on-premises data center in a hybrid approach. AWS Outposts is explored later in this module.

37- C-A Region consists of three or more Availability Zones.

For example, the South America (São Paulo) Region is sa-east-1. It includes three Availability Zones: sa-east-1**a**, sa-east-1**b**, and sa-east-1**c**.

38- A-Compliance with data governance and legal requirements

B-Proximity to your customers

Two other factors to consider when selecting a Region are pricing and the services that are available in a Region.

The other response options are incorrect because:

* The level of support that you choose is not determined by Region. AWS Support plans are explored later in this course.
* Assigning custom permissions to different users is a feature that is possible in all AWS Regions.
* The AWS Command Line Interface (AWS CLI) is available in all AWS Regions.

39- D-A global content delivery service

Amazon CloudFront is a content delivery service. It uses a network of edge locations to cache content and deliver content to customers all over the world. When content is cached, it is stored locally as a copy. This content might be video files, photos, webpages, and so on.

The other response options are incorrect because:

* AWS Outposts is a service that enables you to run infrastructure in a hybrid cloud approach.
* AWS Fargate is a serverless compute engine for containers.
* Amazon Simple Queue Service (Amazon SQS) is a service that enables you to send, store, and receive messages between software components through a queue.

Key:CDN, content delivery

40- C-Edge location

The other response options are incorrect because:

* A Region is a separate geographical location with multiple locations that are isolated from each other.
* An Availability Zone is a fully isolated portion of the AWS global infrastructure.
* An origin is the server from which CloudFront gets your files. Examples of CloudFront origins include Amazon Simple Storage Service (Amazon S3) buckets and web servers. **Note**: Amazon S3 is explored later in this course.

41- D-Extend AWS infrastructure and services to different locations including your on-premises data center.

The other response options are incorrect because:

* The AWS Command Line Interface (AWS CLI) is used to automate actions for AWS services and applications through scripts.
* The AWS Management Console includes wizards and workflows that you can use to complete tasks in AWS services.
* Software development kits (SDKs) enable you to develop AWS applications in supported programming languages.

Key: Extend AWS infrastructure and services

42- A-It is stateless and denies all inbound and outbound traffic.

Network access control lists (ACLs) perform **stateless**packet filtering. They remember nothing and check packets that cross the subnet border each way: inbound and outbound.

Each AWS account includes a default network ACL. When configuring your VPC, you can use your account’s default network ACL or create custom network ACLs.

By default, your account’s default network ACL allows all inbound and outbound traffic, but you can modify it by adding your own rules. For custom network ACLs, all inbound and outbound traffic is denied until you add rules to specify which traffic should be allowed. Additionally, all network ACLs have an explicit deny rule. This rule ensures that if a packet doesn’t match any of the other rules on the list, the packet is denied.

43- D-Translating a domain name to an IP address

For example, if you want to visit AnyCompany’s website, you enter the domain name into your PC and this request is sent to a DNS server. Next, the DNS server asks the web server for the IP address that corresponds to AnyCompany’s website. The web server responds by providing the IP address for AnyCompany’s website, 192.0.2.0.

44- B-Place the Amazon EC2 instances in a public subnet and the Amazon RDS database instances in a private subnet.

A **subnet**is a section of a VPC in which you can group resources based on security or operational needs. Subnets can be public or private.

Public subnets contain resources that need to be accessible by the public, such as an online store’s website.

Private subnets contain resources that should be accessible only through your private network, such as a database that contains customers’ personal information and order histories.

Keys: customer-facing website, database instances to store customers’ personal information

45- C-AWS Direct Connect

Key: private dedicated connection

46- A-They are stateful and deny all inbound traffic by default.

Security groups are stateful. This means that they use previous traffic patterns and flows when evaluating new requests for an instance.

By default, security groups deny all inbound traffic, but you can add custom rules to fit your operational and security needs.

47- D-Internet gateway

 The other response options are incorrect because:

* A public subnet is a section of a VPC that contains public-facing resources.
* An edge location is a site that Amazon CloudFront uses to store cached copies of your content for faster delivery to customers.
* A security group is a virtual firewall that controls inbound and outbound traffic for an Amazon EC2 instance.

48- D-Amazon Route 53

Amazon Route 53 is a DNS web service. It gives developers and businesses a reliable way to route end users to internet applications that host in AWS.

Another feature of Route 53 is the ability to manage the DNS records for domain names. You can transfer DNS records for existing domain names managed by other domain registrars. You can also register new domain names directly in Route 53.

49- A-Best for data that requires retention

C-Separate drives from the host computer of an EC2 instance

50- C-S3 Standard-IA

The S3 Standard-IA storage class is ideal for data that is infrequently accessed but requires high availability when needed. Both S3 Standard and S3 Standard-IA store data in a minimum of three Availability Zones. S3 Standard-IA provides the same level of availability as S3 Standard but at a lower storage price.

The other response options are incorrect because:

* In the S3 Intelligent-Tiering storage class, Amazon S3 monitors objects’ access patterns. If you haven’t accessed an object for 30 consecutive days, Amazon S3 automatically moves it to the infrequent access tier, S3 Standard-IA. If you access an object in the infrequent access tier, S3 automatically moves it to the frequent access tier, S3 Standard.
* S3 Glacier Flexible Retrieval and S3 Glacier Deep Archive are low-cost storage classes that are ideal for data archiving. They would not be the best choice for this scenario, which requires high availability. You can retrieve objects stored in the S3 Glacier Flexible Retrieval storage class within a few minutes to a few hours. By comparison, you can retrieve objects stored in the S3 Glacier Deep Archive storage class within 12 hours.

Keys: infrequently accessed, immediately available

51- B-Using SQL to organize data

E-Storing data in an Amazon Aurora database

Key: Amazon Relational Database Service

52- B-Amazon S3 Glacier Flexible Retrieval

E-Amazon S3 Glacier Deep Archive

Objects stored in the Amazon S3 Glacier Flexible Retrieval storage class can be retrieved within a few minutes to a few hours. By comparison, objects that are stored in the Amazon S3 Glacier Deep Archive storage class can be retrieved within 12 hours.

Key: archival data

53- A-EBS volumes store data within a single Availability Zone. Amazon EFS file systems store data across multiple Availability Zones.

An EBS volume must be located in the same Availability Zone as the Amazon EC2 instance to which it is attached.

Data in an Amazon EFS file system can be accessed concurrently from all the Availability Zones in the Region where the file system is located.

54- D-Amazon Simple Storage Service (Amazon S3)

* Amazon Managed Blockchain is a service that you can use to create and manage blockchain networks with open-source frameworks. Blockchain is a distributed ledger system that lets multiple parties run transactions and share data without a central authority.

Key: object storage

55- B-A serverless key-value database service

Amazon DynamoDB is a key-value database service. It is serverless, which means that you do not have to provision, patch, or manage servers.

56- A-Amazon Redshift

Amazon Redshift is a data warehousing service that you can use for big data analytics. Use Amazon Redshift to collect data from many sources and help you understand relationships and trends across your data.

The other response options are incorrect because:

* Amazon Neptune is a graph database service. You can use Amazon Neptune to build and run applications that work with highly connected datasets, such as recommendation engines, fraud detection, and knowledge graphs.
* Amazon DocumentDB is a document database service that supports MongoDB workloads.
* Amazon ElastiCache is a service that adds caching layers on top of your databases to help improve the read times of common requests.

Key: data warehouse

57- B-Patching software on Amazon EC2 instances

D-Setting permissions for Amazon S3 objects

58- C-An individual member account

E-An organizational unit (OU)

In AWS Organizations, you can apply service control policies (SCPs) to the organization root, an individual member account, or an OU. An SCP affects all IAM users, groups, and roles within an account, including the AWS account root user.

You can apply IAM policies to IAM users, groups, or roles. You cannot apply an IAM policy to the AWS account root user.

59- A-Access AWS compliance reports on-demand.

E-Review, accept, and manage agreements with AWS.

60- B-A document that grants or denies permissions to AWS services and resources

IAM policies provide you with the flexibility to customize users’ levels of access to resources. For instance, you can allow users to access all the Amazon S3 buckets in your AWS account or only a specific bucket.

The other response options are incorrect because:

* Multi-factor authentication (MFA) is an authentication process that provides an extra layer of protection for your AWS account.
* An IAM role is an identity that you can assume to gain temporary access to permissions.
* The root user identity is the identity that is established when you first create an AWS account.

61- C-IAM role

An IAM role is an identity that you can assume to gain temporary access to permissions. When someone assumes an IAM role, they abandon all permissions that they had under a previous role and assume the permissions of the new role. IAM roles are ideal for situations in which access to services or resources needs to be granted temporarily instead of long-term.

Key: temporary access

62- C-Granting only the permissions that are needed to perform specific tasks

When you grant permissions by following the principle of least privilege, you prevent users or roles from having more permissions than needed to perform specific job tasks. For example, cashiers in the coffee shop should be given access to the cash register system. As a best practice, grant IAM users and roles a minimum set of permissions and then grant additional permissions as needed.

63- D-AWS Shield

As network traffic comes into your applications, AWS Shield uses a variety of analysis techniques to detect potential DDoS attacks in real time and automatically mitigates them.

64- C-Create cryptographic keys.

AWS Key Management Service (AWS KMS) enables you to perform encryption operations through the use of cryptographic keys. A cryptographic key is a random string of digits used for locking (encrypting) and unlocking (decrypting) data. You can use AWS KMS to create, manage, and use cryptographic keys. You can also control the use of keys across a wide range of services and in your applications.

65- B-Track user activities and API requests throughout your AWS infrastructure

D-Filter logs to assist with operational analysis and troubleshooting

The other response options are tasks that you can perform in Amazon CloudWatch.

66- A-Monitor your resources’ utilization and performance

D-Access metrics from a single dashboard

67- C-AWS Trusted Advisor

AWS Trusted Advisor is a web service that inspects your AWS environment and provides real-time recommendations in accordance with AWS best practices. The inspection includes security checks, such as Amazon S3 buckets with open access permissions.

68- B-Performance

E-Fault tolerance

AWS Trusted Advisor continuously inspects your AWS environment and provides best practice recommendations across five categories: cost optimization, performance, security, fault tolerance, and service limits.

69- D-12 months

The AWS Free Tier consists of three types of offers that allow customers to use AWS services without incurring costs: Always free, 12 months free, and Trials.

For 12 months after you first sign up for an AWS account, you can take advantage of offers in the **12 Months Free** category. Examples of offers in this category include specific amounts of Amazon S3 Standard Storage, thresholds for monthly hours of Amazon EC2 compute time, and amounts of Amazon CloudFront data transfer out.

70- C-Business

Only the Business, Enterprise On-Ramp, and Enterprise Support plans include all AWS Trusted Advisor checks. Of these three Support plans, the Business Support plan has a lower cost.

71- C-Combine usage across accounts to receive volume pricing discounts.

The other response options are incorrect because:

* Review how much cost your predicted AWS usage will incur by the end of the month - You can perform this action in *AWS Budgets*.
* Create an estimate for the cost of your use cases on AWS - You can perform this action in *AWS Pricing Calculator*.
* Visualize and manage your AWS costs and usage over time - You can perform this action in *AWS Cost Explorer*.

72- C-AWS Cost Explorer

AWS Cost Explorer includes a default report of the costs and usage for your top five cost-accruing AWS services. You can apply custom filters and groups to analyze your data. For example, you can view resource usage at the hourly level.

The other response options are incorrect because:

* AWS Pricing Calculator enables you to create an estimate for the cost of your use cases on AWS.
* AWS Budgets enables you to create budgets to plan your service usage, service costs, and instance reservations. In AWS Budgets, you can also set custom alerts when your usage exceeds (or is forecasted to exceed) the budgeted amount.
* The AWS Free Tier is a program that consists of three types of offers that allow customers to use AWS services without incurring costs: Always free, 12 months free, and Trials.

Key: usage over time

73- B-AWS Budgets

In AWS Budgets, you can set custom alerts that will notify you when your service usage exceeds (or is forecasted to exceed) the amount that you have budgeted.

Your budget can be based on costs or usage. For example, you can set an alert that will notify you when you have incurred $100.00 of costs in Amazon EC2 or 500,000 requests in AWS Lambda.

74- B-Enterprise

A Technical Account Manager (TAM) is available only to AWS customers with the Enterprise On-Ramp and Enterprise Support plans. A TAM provides guidance, architectural reviews, and ongoing communication with your company as you plan, deploy, and optimize your applications.

Key:TAM

75- A-AWS Marketplace

AWS Marketplace is a digital catalog that includes thousands of software listings from independent software vendors. You can use AWS Marketplace to find, test, and buy software that runs on AWS.