1. Which of these statements is true? 1 / 1 point

- Cognitive systems can only process neatly organized structured data
- Cognitive systems can derive mathematically precise answers following a rigid decision tree approach
- (selected) Cognitive systems can learn from their successes and failures
- Cognitive systems can only translate small volumes of audio data into their literal text translations at massive speeds

Correct
Cognitive systems learn, adapt, and keep getting smarter by learning from their interactions with us and from their own successes and failures, just like humans do.

2. Which of these statements is true? 1 / 1 point

- Data Science is a subset of AI that uses machine learning algorithms to extract meaning and draw inferences from data
- (selected) Deep Learning is a specialized subset of Machine Learning that uses layered neural networks to simulate human decision-making
- Artificial Intelligence and Machine Learning refer to the same thing since both the terms are often used interchangeably
- AI is the subset of Data Science that uses Deep Learning algorithms on structured big data

Correct
Deep Learning enables machines to continuously learn on the job and improve the quality and accuracy of results by determining whether decisions were correct.

3. Which of the following is NOT an attribute of Machine Learning? 0 / 1 point

- (selected) Takes data and answers as input and uses these inputs to create a set of rules that determine what the Machine Learning model will be
- Takes data and rules as input and uses these inputs to develop an algorithm that will give us an answer
- Machine Learning models can be continuously trained
- Machine Learning defines behavioral rules by comparing large data sets to find common patterns

Incorrect
Machine Learning uses computer algorithms to analyze data and make intelligent decisions by defining behavioral rules based on what it has learned, without being explicitly programmed. These algorithms continue to learn on the job.

4. Which of the following is NOT an attribute of Unsupervised Learning? 1 / 1 point

- It is useful for finding hidden patterns and or groupings in data and can be used to differentiate normal behavior with outliers such as fraudulent activity
- The algorithm ingests unlabeled data, draws inferences, and finds patterns from unstructured data
- Takes data and rules as input and uses these inputs to develop an algorithm that will give us an answer
- It is useful for clustering data, where data is grouped according to how similar it is to its neighbors and dissimilar to everything else

Correct
This statement is not an attribute of either Machine Learning or Unsupervised Learning. Machine Learning techniques such as unsupervised learning are not fed rules. Rather they determine the rules from data.

5. Which of the following is an attribute of Supervised Learning? 1 / 1 point

- Relies on providing the machine learning algorithm human-labeled data - the more samples you provide, the more precise the algorithm becomes in classifying new data
- Relies on providing the machine learning algorithm with a set of rules and constraints and letting it learn how to achieve its goals
- Relies on providing the machine learning algorithm unlabeled data and letting the machine infer qualities
- Tries its best to maximize its rewards by trying different combinations of allowed actions within the provided constraints

Correct
Supervised learning relies on giving the algorithm human-labeled data for training. The greater the number of samples that the algorithm is trained on, the greater is its precision in classifying new data.

6. Which of the following statements about datasets used in Machine Learning is NOT true? 1 / 1 point

- (●) Training data is used to fine-tune algorithm's parameters and evaluate how good the model is
- ( ) Validation data subset is used to validate results and fine-tune the algorithm's parameters
- ( ) Training subset is the data used to train the algorithm
- ( ) Testing data is data the model has never seen before and is used to evaluate how good the model is

✓ Correct
Training data is used to train the algorithm. It is the Validation data that is used to fine-tune algorithm's parameters and evaluate how good the model is.

7. When creating deep learning algorithms, developers configure the number of layers and the type of functions that connect the outputs of each layer to the inputs of the next. 1 / 1 point

- (●) True
- ( ) False

✓ Correct
Deep Learning algorithms rely on several layers of processing units, or neurons, where each layer passes on its output to the next layer, which processes it and passes it onto the next. The number of layers and the types of functions that connect the outputs of each layer to the inputs of the next are configured by developers.

8. Which of the following fields of application for AI can be used at the airport to flag weapons within luggage passing through the X-ray scanner? 1 / 1 point

- (●) Computer Vision
- ( ) Chatbots
- ( ) Speech
- ( ) Natural Language

✓ Correct
Computer Vision enables machines to interpret digital images and video sequences and perform tasks like object

identification.

9. Which of these activities is NOT required in order for a neural network to synthesize human voice? 1 / 1 point

- Ingest numerous samples of a person's voice until it can tell whether a new voice sample belongs to the same person
- Deconstruct sentences to decipher the context of use
- Generate audio data and run it through the network to see if it validates it as belonging to the subject
- Continue to correct the sample and run it through the classifier, repetitively, till an accurate voice sample is created

Correct
Deconstructing sentences to decipher the context of use is a feature of Natural Language Processing, not Speech Synthesis.

10. Which one of these ways is NOT how AI learns? 1 / 1 point

- Proactive Learning
- Reinforcement Learning
- Unsupervised Learning
- Supervised Learning

Correct
AI learns in three different ways - Supervised, Unsupervised, and

Reinforcement Learning.