# AI-900 Q&As

Microsoft Azure AI Fundamentals

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**QUESTION 1**

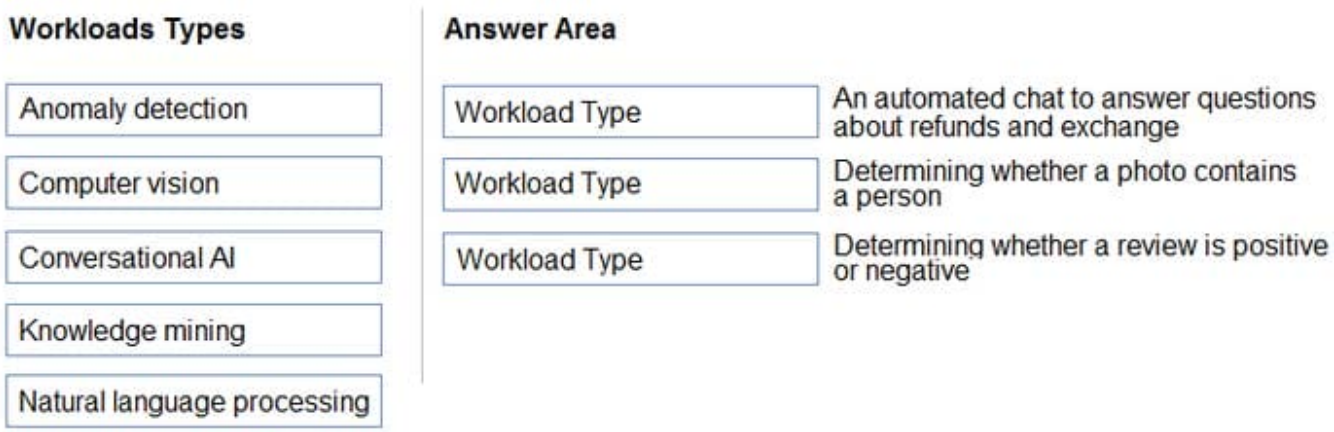
DRAG DROP

Match the types of AI workloads to the appropriate scenarios.

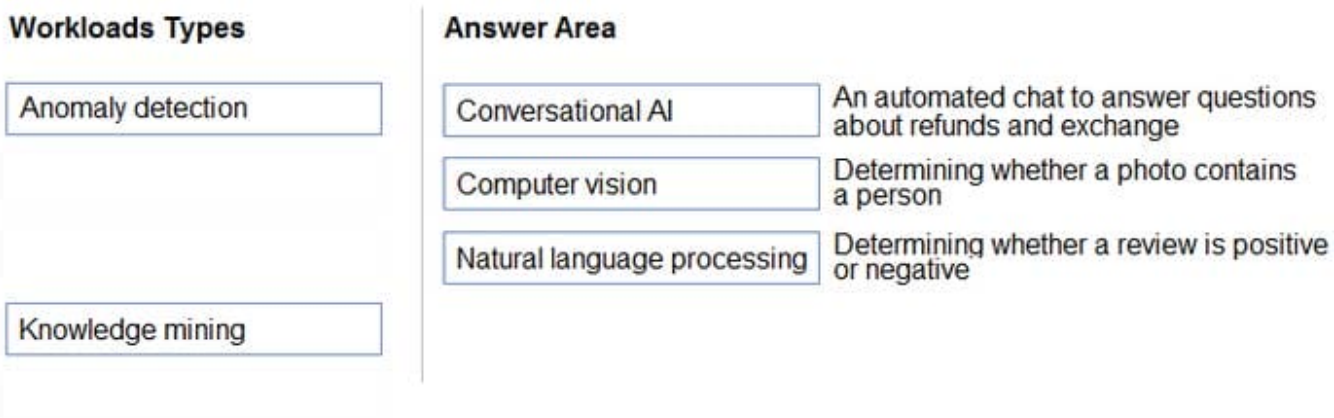
To answer, drag the appropriate workload type from the column on the left to its scenario on the right. Each workload type may be used once, more than once, or not at all.

NOTE: Each correct selection is worth one point.

Select and Place:




Correct Answer:




Box 1: Knowledge mining

You can use Azure Cognitive Search\\'s knowledge mining results and populate your knowledge base of your chatbot.

Box 3: Natural language processing

Natural language processing (NLP) is used for tasks such as sentiment analysis, topic detection, language detection, key phrase extraction, and document categorization.

Reference:

https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

**QUESTION 2**

You are designing an AI system that empowers everyone, including people who have hearing, visual, and other impairments. This is an example of which Microsoft guiding principle for responsible AI?

A. fairness

B. inclusiveness

C. reliability and safety

D. accountability

Correct Answer: B

Inclusiveness: At Microsoft, we firmly believe everyone should benefit from intelligent technology, meaning it must incorporate and address a broad range of human needs and experiences. For the 1 billion people with disabilities around the world, AI technologies can be a game-changer.

Reference: https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

**QUESTION 3**

You need to determine the location of cars in an image so that you can estimate the distance between the cars. Which type of computer vision should you use?

A. optical character recognition (OCR)

B. object detection

C. image classification

D. face detection

Correct Answer: B

Object detection is similar to tagging, but the API returns the bounding box coordinates (in pixels) for each object found. For example, if an image contains a dog, cat and person, the Detect operation will list those objects together with their coordinates in the image. You can use this functionality to process the relationships between the objects in an image. It also lets you determine whether there are multiple instances of the same tag in an image.

The Detect API applies tags based on the objects or living things identified in the image. There is currently no formal relationship between the tagging taxonomy and the object detection taxonomy. At a conceptual level, the Detect API only finds objects and living things, while the Tag API can also include contextual terms like "indoor", which can\\'t be localized with bounding boxes.

Reference: https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/concept-object-detection

**QUESTION 4**

You have an AI solution that provides users with the ability to control smart devices by using verbal commands.

Which two types of natural language processing (NLP) workloads does the solution use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. text-to-speech

B. key phrase extraction

C. speech-to-text

D. language modeling

E. translation

Correct Answer: BC

Key phrase extraction is one of the features offered by Azure Cognitive Service for Language, a collection of machine learning and AI algorithms in the cloud for developing intelligent applications that involve written language. Use key phrase extraction to quickly identify the main concepts in text. For example, in the text "The food was delicious and the staff were wonderful.", key phrase extraction will return the main topics: "food" and "wonderful staff".

Reference: https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/key-phrase-extraction/overview

**QUESTION 5**

What are two metrics that you can use to evaluate a regression model? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. coefficient of determination (R2)

B. F1 score

C. root mean squared error (RMSE)

D. area under curve (AUC)

E. balanced accuracy

Correct Answer: AC

A: R-squared (R2), or Coefficient of determination represents the predictive power of the model as a value between -inf and 1.00. 1.00 means there is a perfect fit, and the fit can be arbitrarily poor so the scores can be negative.

C: RMS-loss or Root Mean Squared Error (RMSE) (also called Root Mean Square Deviation, RMSD), measures the difference between values predicted by a model and the values observed from the environment that is being modeled. Incorrect Answers:

B: F1 score also known as balanced F-score or F-measure is used to evaluate a classification model.

D: aucROC or area under the curve (AUC) is used to evaluate a classification model.

Reference: https://docs.microsoft.com/en-us/dotnet/machine-learning/resources/metrics

**QUESTION 6**

You have an Internet of Things (IoT) device that monitors engine temperature.

The device generates an alert if the engine temperature deviates from expected norms.

Which type of AI workload does the device represent?

A. natural language processing (NLP)

B. computer vision

C. anomaly detection

D. knowledge mining

Correct Answer: C

**QUESTION 7**

Which two actions are performed during the data ingestion and data preparation stage of an Azure Machine Learning process? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. Calculate the accuracy of the model.

B. Score test data by using the model.

C. Combine multiple datasets.

D. Use the model for real-time predictions.

E. Remove records that have missing values.

Correct Answer: CE

Reference: https://docs.microsoft.com/en-us/azure/machine-learning/concept-data-ingestion
https://docs.microsoft.com/en-us/azure/architecture/data-science-process/prepare-data

**QUESTION 8**

In which two scenarios can you use the Form Recognizer service? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. Extract the invoice number from an invoice.

B. Translate a form from French to English.

C. Find image of product in a catalog.

D. Identity the retailer from a receipt.

Correct Answer: AD

Reference: https://azure.microsoft.com/en-gb/services/cognitive-services/form-recognizer/#features

**QUESTION 9**

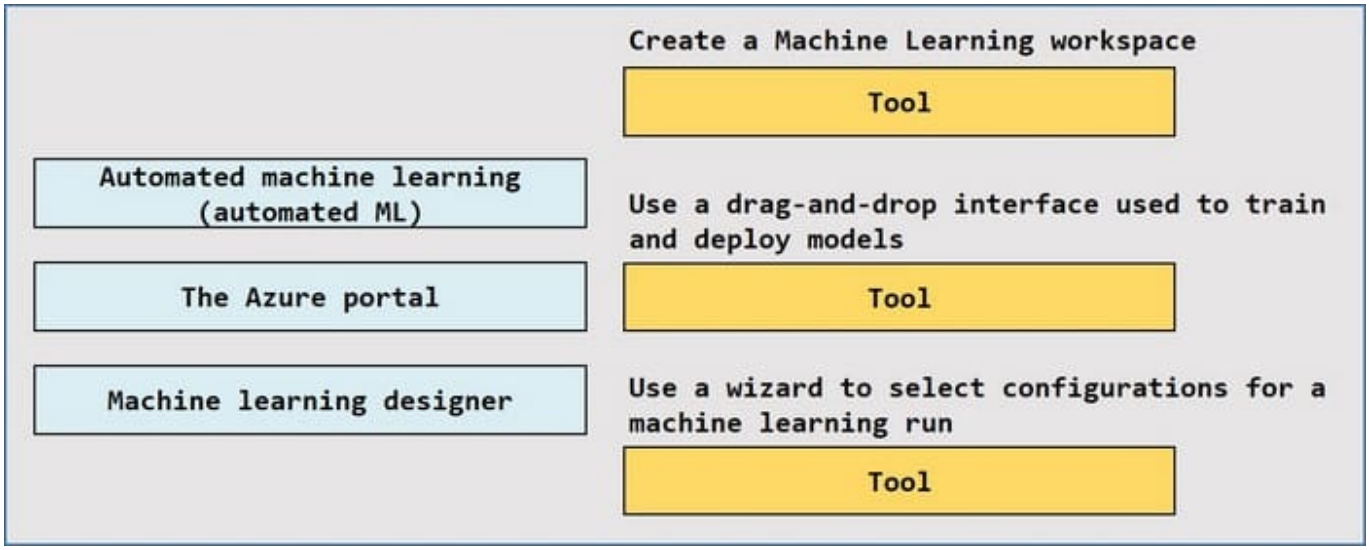
DRAG DROP

Match the tool to the Azure Machine Learning task.

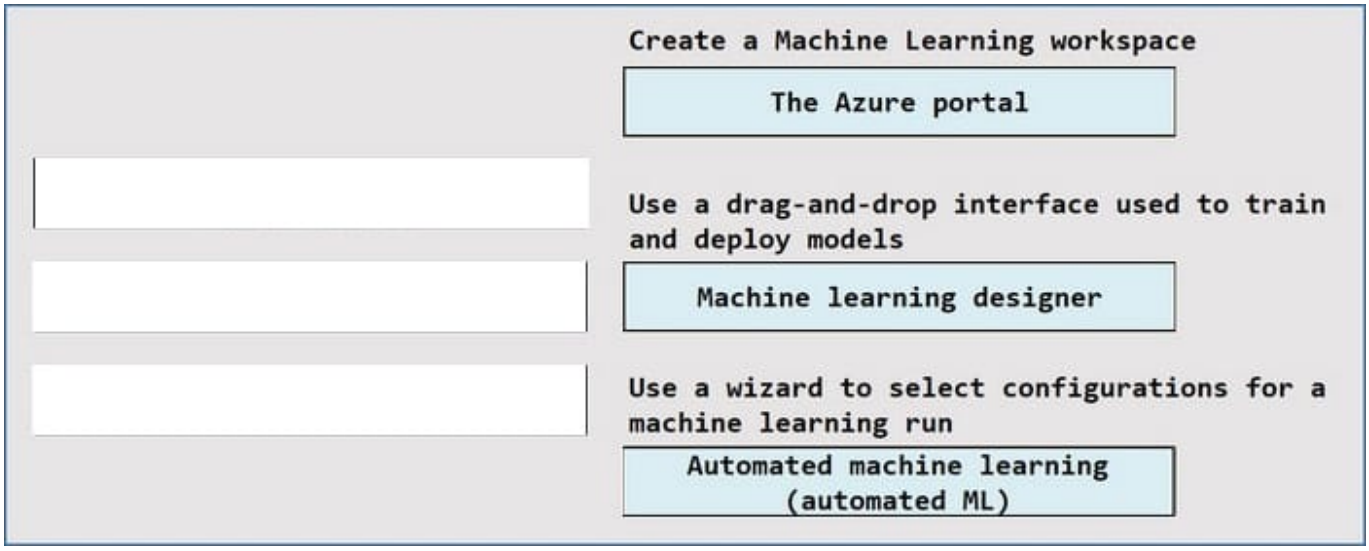
To answer, drag the appropriate tool from the column on the left to its tasks on the right. Each tool may be used once, more than once, or not at all

NOTE: Each correct match is worth one point.

Select and Place:




Correct Answer:




Box 1: The Azure portal Box 2: Machine Learning designer Box 3: Automated machine learning (automated ML)

Automated machine learning, also referred to as automated ML or AutoML, is the process of automating the time-consuming, iterative tasks of machine learning model development. It allows data scientists, analysts, and developers to build ML models with high scale, efficiency, and productivity all while sustaining model quality. Reference: https://docs.microsoft.com/en-us/azure/machine-learning/concept-automated-ml

**QUESTION 10**

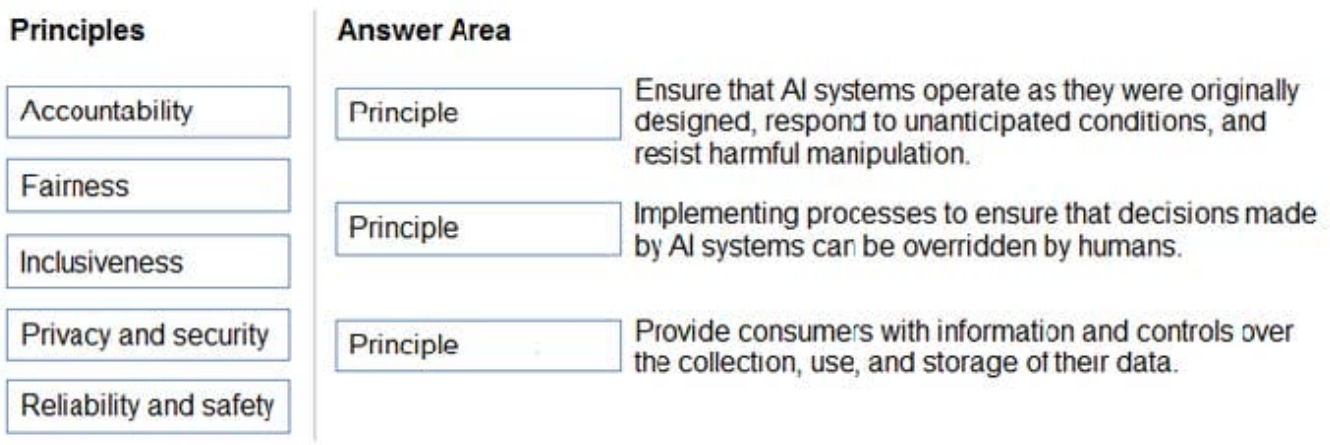
DRAG DROP

Match the Microsoft guiding principles for responsible AI to the appropriate descriptions.

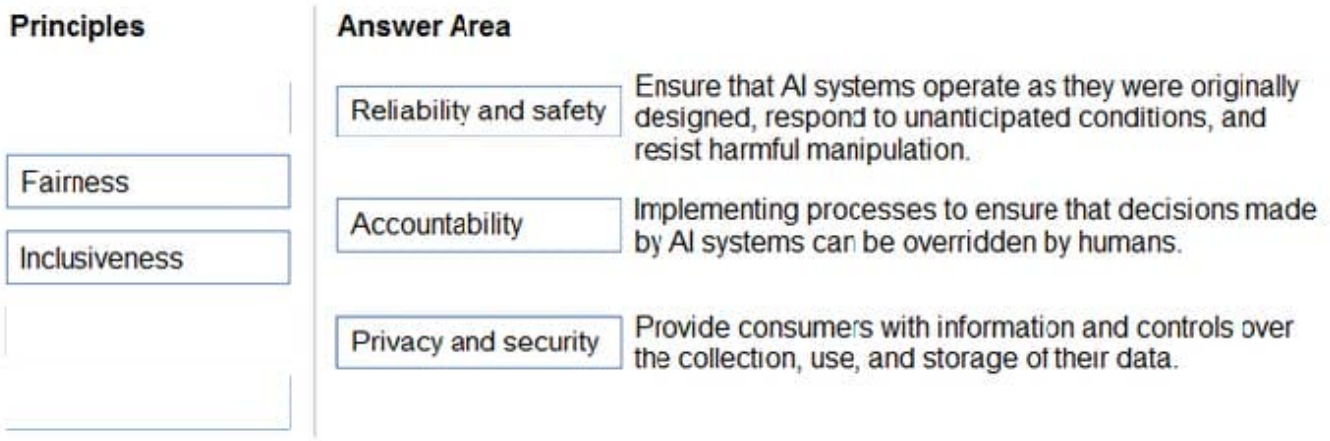
To answer, drag the appropriate principle from the column on the left to its description on the right. Each principle may be used once, more than once, or not at all.

NOTE: Each correct selection is worth one point.

Select and Place:




Correct Answer:




Box 1: Reliability and safety To build trust, it\\'s critical that AI systems operate reliably, safely, and consistently under normal circumstances and in unexpected conditions. These systems should be able to operate as they were originally designed, respond safely to unanticipated conditions, and resist harmful manipulation.

Box 2: Fairness Fairness: AI systems should treat everyone fairly and avoid affecting similarly situated groups of people in different ways. For example, when AI systems provide guidance on medical treatment, loan applications, or employment, they should make the same recommendations to everyone with similar symptoms, financial circumstances, or professional qualifications.

We believe that mitigating bias starts with people understanding the implications and limitations of AI predictions and recommendations. Ultimately, people should supplement AI decisions with sound human judgment and be held accountable for consequential decisions that affect others.

Box 3: Privacy and security As AI becomes more prevalent, protecting privacy and securing important personal and business information is becoming more critical and complex. With AI, privacy and data security issues require especially close attention because access to data is essential for AI systems to make accurate and informed predictions and decisions about people. AI systems must comply with privacy laws that require transparency about the collection, use, and storage of data and mandate that consumers have appropriate controls to choose how their data is used

Reference: https://docs.microsoft.com/en-us/learn/modules/responsible-ai-principles/4-guiding-principles

**QUESTION 11**

HOTSPOT

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

NOTE: Each correct selection is worth one point.

Hot Area:

**Answer Area**

| Statements | Yes | No |
|---|---|---|
| The Language service can identify in which language text is written. | ○ | ○ |
| The Language service can detect handwritten signatures in a document. | ○ | ○ |
| The Language service can identify companies and organizations mentioned in a document. | ○ | ○ |

Correct Answer:

**Answer Area**

| Statements | Yes | No |
|---|---|---|
| The Language service can identify in which language text is written. | ○ | ○ |
| The Language service can detect handwritten signatures in a document. | ○ | ○ |
| The Language service can identify companies and organizations mentioned in a document. | ○ | ○ |

Box 1: Yes

Azure Cognitive Service for Language provides features including:

* Language detection: This pre-configured feature evaluates text, and determines the language it was written in. It returns a language identifier and a score that indicates the strength of the analysis.

Box 2: No

Handwritten detection is part of OCR (Optical Character Recognition).

Box 3: Yes

Azure Cognitive Service for Language provides features including:

* Named Entity Recognition (NER): This pre-configured feature identifies entities in text across several pre-defined categories.

Note: Named entity recognition is a natural language processing technique that can automatically scan entire articles and pull out some fundamental entities in a text and classify them into predefined categories. Entities may be,

Organizations, Quantities, Monetary values, Percentages, and more. People\\'s names Company names Geographic locations (Both physical and political) Product names Dates and times Amounts of money Names of events

Reference: https://docs.microsoft.com/en-us/azure/cognitive-services/language-service/overview

**QUESTION 12**

You have insurance claim reports that are stored as text.

You need to extract key terms from the reports to generate summaries.

Which type of AI workload should you use?

A. natural language processing

B. conversational AI

C. anomaly detection

D. computer vision

Correct Answer: A

Key phrase extraction is the concept of evaluating the text of a document, or documents, and then identifying the main talking points of the document(s). Key phase extraction is a part of Text Analytics. The Text Analytics service is a part of the Azure Cognitive Services offerings that can perform advanced natural language processing over raw text.

https://docs.microsoft.com/en-us/learn/modules/analyze-text-with-text-analytics-service/2-get-started-azure
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/natural-language-processing

**QUESTION 13**

You have a knowledge base of frequently asked questions (FAQ).

You create a bot that uses the knowledge base to respond to customer requests.

You need to identify what the bot can perform without adding additional skills.

What should you identify?

A. Register customer purchases.

B. Register customer complaints.

C. Answer questions from multiple users simultaneously.

D. Provide customers with return materials authorization (RMA) numbers.

Correct Answer: C

Incorrect:

Skill actions include

*

Use skills for complex, multi-turn operations. For example, schedule a meeting or book a flight. (Not A, Not B)

*

Use skills to emit any supported bot response. For example, show an adaptive card or send random responses. (not C)
Reference: https://learn.microsoft.com/en-us/power-virtual-agents/configuration-add-skills

**QUESTION 14**

Which AI service should you use to create a bot from a frequently asked questions (FAQ) document?

A. QnA Maker

B. Language Understanding (LUIS)

C. Text Analytics

D. Speech

Correct Answer: A

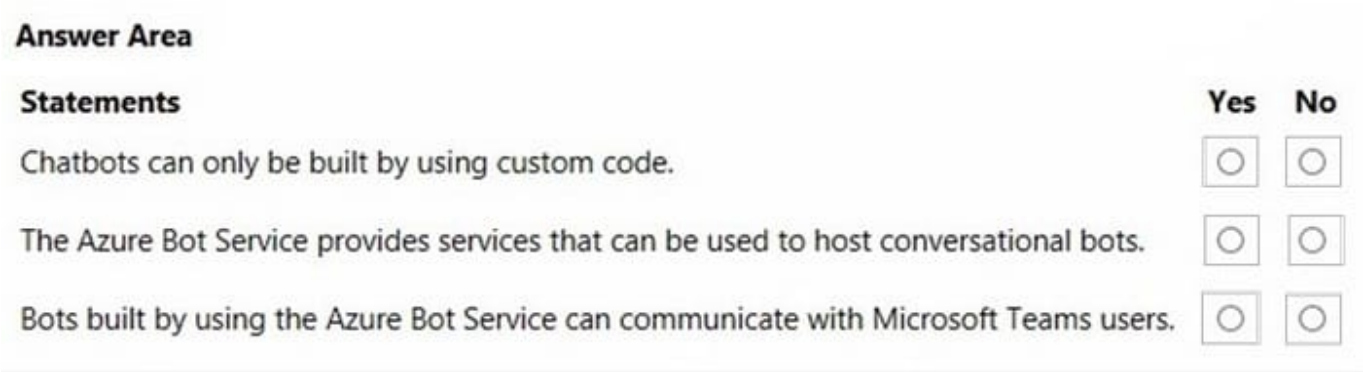
**QUESTION 15**

HOTSPOT

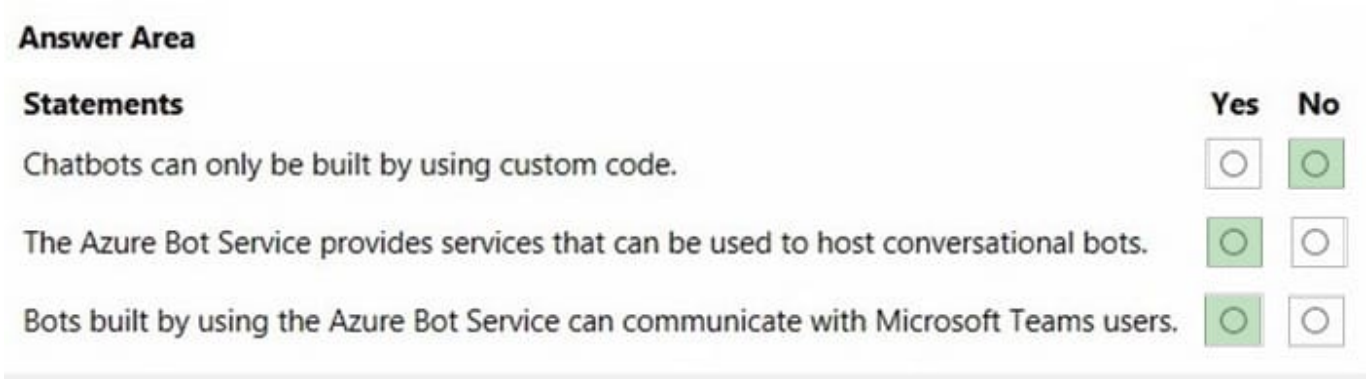
For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:




Correct Answer:




Box 1: No

Build conversational experiences with Power Virtual Agents and Azure Bot Service

Azure Bot Service provides an integrated development environment for bot building. Its integration with Power Virtual Agents, a fully hosted low-code platform, enables developers of all technical abilities build conversational AI bots—no code

needed.

Box 2: Yes

Box 3: Yes

You can configure your bot to communicate with people via Microsoft Teams.

Reference: https://azure.microsoft.com/en-us/services/bot-services/#overview

https://docs.microsoft.com/en-us/azure/bot-service/channel-connect-teams