



Grade 7

INTERNATIONAL ACADEMIC DECATHLON

2024

Total Questions: 50

Total Marks: 50

Time: 1hr

Set: A

Question: 1 of 50

QID: 546

Marks: 1

Read the passage:-

#### Human Activity and Earthquakes

When Americans think of earthquakes, they tend to think of California, a state known for its frequent seismic activity. In recent years, however, people in Arkansas, Colorado, Kansas, New Mexico, Oklahoma, and Texas have been feeling the ground shake more often. An increase in oil and gas drilling in these states has led to "human- induced" earthquakes— those resulting from human activity. When wastewater is disposed of during gas and oil drilling, the water is forced deep underground. The resulting buildup of pressure can cause fault lines (cracks in the Earth's crust) to shift. According to Mark Petersen, head of the U.S. Geological Survey's earthquake hazard mapping project, "In the past five years, the USGS has documented high shaking and damage in areas of these six states, mostly from induced earthquakes."

What is the main, or central, idea of the passage?

- ☐ A. Residents of six U.S. states have experienced an increase in earthquake activity in recent years.
- ☐ B. An increase in oil and gas drilling has caused a corresponding increase in earthquakes in six states.

Question: 2 of 50

QID: 547

Marks: 1

Read the source of the allusion:-

In 1815, French emperor Napoleon suffered a devastating defeat in the Battle of Waterloo, which would prove to be his final battle before he abdicated the throne.

What is the meaning of the allusion in the sentence below?

Last night's play- off in the semifinals proved to be the team's **Waterloo**.

- ☐ A. a final defeat
- ☐ B. a virtual tie

Question: 3 of 50

QID: 552

Marks: 1

What kind of sentence is this?

Caribou eat plants and grass in the summer and mushrooms and lichen in the winter.

- ☐ A. interrogative
- ☐ B. declarative
- ☐ C. exclamatory

**Question: 4 of 50**

QID: 553

Marks: 1

What does the following sentence suggest?

The movie *Stand by Me*, which was released in 1986, is a classic coming- of- age story about four twelve- year- old boys who set out on a summer adventure in Castlerock, Oregon.

- ☐ A. There is more than one movie called *Stand by Me*. ☐ B. There is only one movie called *Stand by Me*.

**Question: 5 of 50**

QID: 554

Marks: 1

Is the phrase in bold a direct object or an indirect object?

Elise left the **hotel staff** a gracious thank- you note.

- ☐ A. direct object ☐ B. indirect object

**Question: 6 of 50**

QID: 555

Marks: 1

Which is a complete sentence?

- ☐ A. The interior designer styled our living room with new fashionable decor ☐ B. Our ice hockey team mascot, a grizzly bear

**Question: 7 of 50**

QID: 622

Marks: 1

Which word is a synonym of hermit?

- ☐ A. loner ☐ B. stoneman

**Question: 8 of 50**

QID: 623

Marks: 1

Complete the sentence with the correct homophone.

In the large field just north of the ranch house, they \_\_\_\_\_ corn.

- ☐ A. sew ☐ B. sow  
☐ C. so

**Question: 9 of 50**

QID: 616

Marks: 1

Complete the sentence so that it uses personification.

As much as we might like to freeze time, it \_\_\_\_\_

- ☐ A. cannot be stopped ☐ B. marches on

Which is a thesis statement?

- ☐ A. Buying goods from local businesses is a great way to invest in the economy, find unique products, and build community relationships.
- ☐ B. What impact does buying goods and services from local businesses instead of large chain stores have on the community?

Cellular respiration involves many chemical reactions. When a chemical process involves a series of reactions, scientists may summarize the process with a single chemical equation. This equation shows only the key reactants and products.

For example, cellular respiration often uses a sugar called glucose and oxygen gas as key reactants. This process can be summarized by the following chemical equation:

glucose + oxygen  $\rightarrow$  carbon dioxide + water

Glucose, like other sugar molecules, often serves as an energy source for cells. Cells release energy by breaking down glucose through chemical reactions with oxygen gas. This process produces carbon dioxide gas and water.

Which of the following substances is a key reactant of this process?

- ☐ A. glucose
- ☐ B. water
- ☐ C. carbondioxide

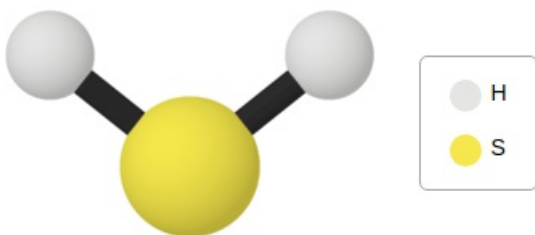
*Chelonoidis nigra* is a member of the animal kingdom.

*Chelonoidis nigra* is commonly called a Galápagos giant tortoise. These large tortoises live on the Galápagos Islands. When Spanish sailors arrived at these islands in the 1530s, about 200,000 Galápagos giant tortoises lived on the islands. The Spanish sailors named the islands after a Spanish word for tortoise, galápagos.

Is *Chelonoidis nigra* made up of one cell?

- ☐ A. yes
- ☐ B. no

Select the chemical formula for this molecule.



- ☐ A. HS<sub>2</sub>
- ☐ B. HS
- ☐ C. H<sub>2</sub>S
- ☐ D. H<sub>2</sub>S<sub>2</sub>

Select the chemical formula for this molecule.



- ☐ A. HF
- ☐ C. H<sub>2</sub>F

☐ B. FH

## Question: 15 of 50

QID: 588

Marks: 1

For 3.8 minutes, a horse ran toward a barn at 150 meters per minute.

In that time, how far did the horse run?

- ☐ A. 580m
- ☐ C. 600m

- ☐ B. 570m
- ☐ D. 40m

## Question: 16 of 50

QID: 589

Marks: 1

A boy is turning to the left as he rides a merry-go-round at a constant speed.

Which statement describes the boy's motion?

☐ A. The boy is accelerating.

☐ B. The boy has a constant velocity.

## Question: 17 of 50

QID: 595

Marks: 1

The Sunda Trench is a deep-sea trench that formed as the Indo-Australian Plate collided with the Sunda Plate. Movement at this plate boundary can cause earthquakes and devastating tsunamis. A tsunami is a series of giant waves that may form when oceanic crust is suddenly lifted by an earthquake. In December 2004, an earthquake and the resulting tsunami affected millions of people in countries surrounding the Indian Ocean.

Complete the sentence.

The Sunda Trench formed at a \_\_\_\_\_ boundary.

- ☐ A. convergent
- ☐ C. transform

☐ B. divergent

The Karakoram Range is a mountain range that extends into Afghanistan, China, India, Pakistan, and Tajikistan. This range has many tall mountains, including K2, the second-tallest peak on Earth. K2 rises 8,611 meters above sea level. The Karakoram Range formed as the Indo-Australian Plate moved toward and collided with the Eurasian Plate.

Complete the sentence.

The Karakoram Range formed at a \_\_\_\_\_ boundary.

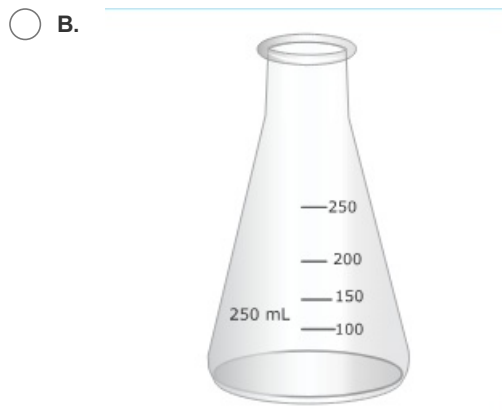
- ☐ A. convergent
- ☐ B. transform
- ☐ C. divergent

## Question: 19 of 50

QID: 601

Marks: 1

Select the round-bottom flask.



## Question: 20 of 50

QID: 602

Marks: 1

The passage below describes an experiment. Read the passage and think about the variables that are described.

Alana's brother thought that crushed ice would keep his soda cooler than whole ice cubes.

To test this idea, Alana divided a large bottle of soda equally among six glasses. Alana added five whole ice cubes to each of the first three glasses while her brother crushed five ice cubes into small pieces before adding them to each of the other three glasses. Ten minutes after all the ice had been added to the glasses, Alana used a thermometer to measure the temperature of the soda in each glass.

Which of the following was an independent variable in this experiment?

Hint: An independent variable is a variable whose effect you are investigating. A dependent variable is a variable that you measure.

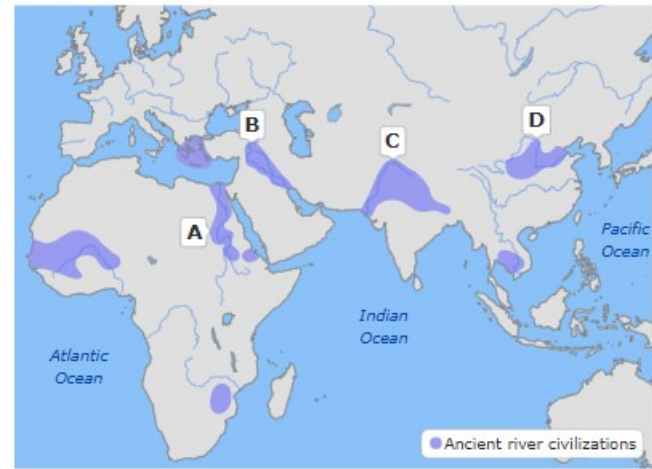
- ☐ A. the size of the ice pieces
- ☐ B. the temperature of the soda

Ancient Egypt was one of the first civilizations.

Civilizations are complex societies with organized communities and governments. Many of the first civilizations started around big rivers.

Look at the map of early river civilizations. Then answer the question below.

Which letter marks ancient Egypt?



- ☐ A. A
- ☐ B. B
- ☐ C. C
- ☐ D. D

Egypt's geography was helpful for starting a civilization. Look at the map of Egypt. Then follow the instructions below.



Name a body of water east of Egypt that allowed ancient Egyptians to trade with Asia

- ☐ A. the Red Sea
- ☐ B. the Mediterranean Sea
- ☐ C. the Nile River
- ☐ D. the Sahara Desert

World War I began in Europe in 1914. The map below shows the two main opponents in the war: the Central powers and the Allied powers. Look at the map. Then answer the question below.

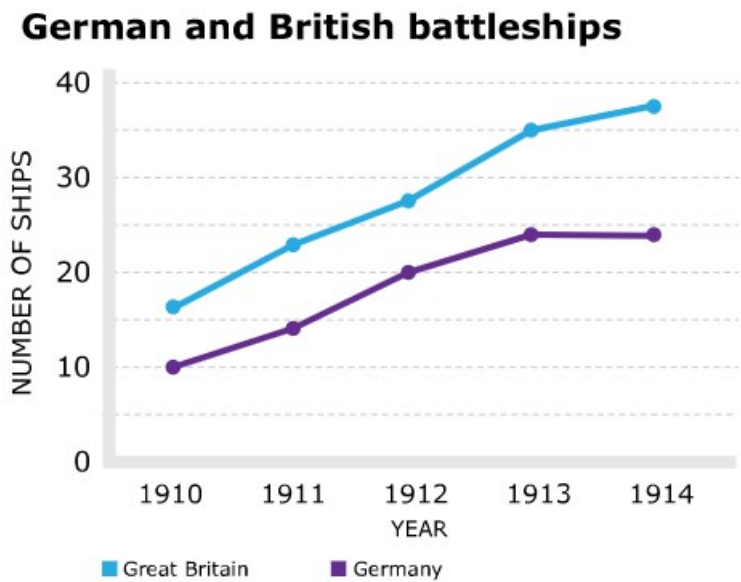
which of them is central power?



- ☐ A. Great Britain
- ☐ B. France
- ☐ C. Russia
- ☐ D. Germany

The graph below shows the number of battleships in the German and British navies in the years before World War I. Look at the graph. Then answer the question.

What information does this graph reveal about Germany and Great Britain before World War I?



- ☐ A. Before the war started, Germany and Great Britain had the same number of battleships.
- ☐ B. Great Britain did not have enough money to build as many battleships as Germany.
- ☐ C. Both Germany and Great Britain increased the size of their navies before the war.
- ☐ D. Germany and Great Britain had more battleships in 1911 than they did in 1913.

Nationalism, or the pride people feel about their own country or ethnic group, was one of the causes of World War I. The passage below gives an example of how nationalism led to war. Read the passage. Then answer the question.

In 1908, Austria- Hungary took control of territories known as Bosnia and Herzegovina. Many people in these territories and the nearby country of Serbia were angry. They believed Bosnia and Herzegovina should be controlled by Slavic people, or members of an ethnic group that spoke Slavic languages such as Serbian or Russian. Many nationalist groups formed hoping to free Bosnia and Herzegovina from foreign rule. Young Bosnia was one of these groups. One of its members was Gavrillo Princip, a 19- year- old from a Serbian family. On June 28, 1914, while Archduke Francis Ferdinand of Austria- Hungary was visiting Bosnia, Princip shot and killed both the archduke and his wife. The royal couple's murder infuriated Austria- Hungary. With Germany's support, Austria- Hungary declared war on Serbia. This assassination proved to be a nationalistic "spark" that helped to ignited the flames of war across Europe. Complete the text.

This story illustrates the complex role nationalism played in pre- World War I Europe. Slavic groups like \_\_\_\_\_ were influenced by nationalism. They hated the idea of a foreign power ruling over the Slavic populations in Bosnia and Herzegovina so they plotted to assassinate the Archduke of \_\_\_\_\_ .

- ☐ A. Serbian nationalists...Russia
- ☐ B. Young Bosnia...Austria- Hungary
- ☐ C. Balkan imperialists...Serbia
- ☐ D. Russian nationalists...Great Britain

## Question: 26 of 50

QID: 1428

Marks: 1

Athens was one of the most powerful independent city-states in ancient Greece. Look at the definitions below. Then answer the question.

Which of the following statements describes living in an independent city-state?

- ☐ A. All the decisions about my city are made by a faraway emperor.
- ☐ B. I live by myself in the wilderness.
- ☐ C. I vote for a president that rules over many different cities.
- ☐ D. My city rules itself and is not part of a larger country.



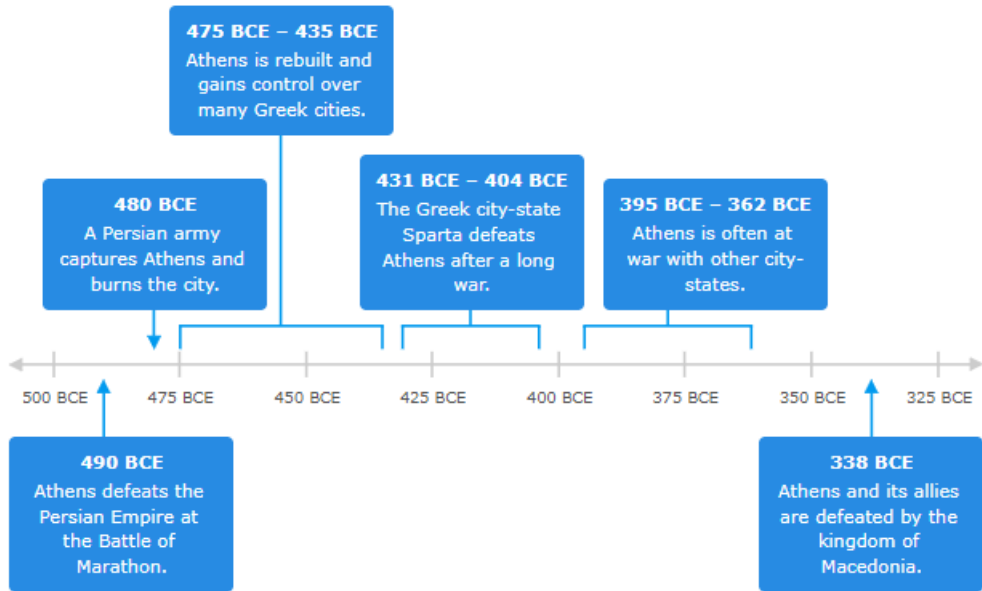
Athens is a city in Greece, which is located on a peninsula in southern Europe. The map below shows Athens and its surrounding region in about 500 BCE. Look at the map. Then complete the text below.



Complete the text.  
Athens was a major trading city along the coast of the \_\_\_\_ Sea. Athens's closest neighbor was \_\_\_\_.

- ☐ A. Ionian . . . the Persian Empire
- ☐ B. Aegean . . . another Greek city- state
- ☐ C. Aegean . . . the Persian Empire
- ☐ D. Ionian . . . another Greek city- state

Historians use the term "classical Athens" to describe Athens between the years 510 and 322 BCE. The timeline below provides information about Athens's relationships with its neighbors. Look at the timeline. Then answer the question below.



Based on the timeline, what was true about classical Athens?

- ☐ A. Classical Athens lost every single one of its battles.
- ☐ B. Classical Athens was usually at peace.
- ☐ C. Classical Athens was friendly with the Persian Empire.
- ☐ D. Classical Athens was frequently at war with other city-states.

In the following questions, you will learn about economics.

Economics is the study of decisions people make to meet needs and wants.

Needs are things that you must have to live or stay healthy and safe. Wants are things that you would like to have.

Below are some decisions that Layla has made today. Each one is meant to satisfy a need or a want.

What is need for Layla among them?

- ☐ A. Layla goes to work so she can make money to pay for her house.
- ☐ B. Layla watches an episode of her favorite TV show.
- ☐ C. Layla wants to buy a car.
- ☐ D. Layla cancels plans for next week so she can go on a vacation.

Avery's family is deciding whether to move to a house on Hillcrest Road or Main Avenue. They really want to live on Hillcrest Road. But the house on that street is smaller and more expensive.

Suppose they decide to move to the house on Hillcrest Road.

Choose the benefits among them.

- ☐ A. They will get to live on Hillcrest Road. They really like that street.
- ☐ B. They will spend more money each month to live in the house on Hillcrest Road than the one on Main Avenue. They could have saved this money.
- ☐ C. They won't get to live on Main Avenue. They would have liked living on that street a little bit.
- ☐ D. They will give up some space. They might need a house with more space in the future if their family grows.

Which country hosted the 2022 Winter Olympics?

- ☐ A. China
- ☐ B. Canada
- ☐ C. Russia
- ☐ D. Norway

**Question: 32 of 50**

QID: 1804

Marks: 1

In 2021, which country became the first to officially declare a climate emergency?

- ☐ A. United States
- ☐ B. United Kingdom
- ☐ C. Canada
- ☐ D. Australia

**Question: 33 of 50**

QID: 1814

Marks: 1

Which technology is being used to create more accurate climate predictions through satellite monitoring?

- ☐ A. Blockchain
- ☐ B. Artificial Intelligence
- ☐ C. Virtual Reality
- ☐ D. Augmented Reality

**Question: 34 of 50**

QID: 1815

Marks: 1

Which space organization launched the first rover to Mars in 2021 as part of the Perseverance mission?

- ☐ A. ESA (European Space Agency)
- ☐ B. NASA (National Aeronautics and Space Administration)
- ☐ C. CNSA (China National Space Administration)
- ☐ D. ISRO (Indian Space Research Organization)

**Question: 35 of 50**

QID: 1824

Marks: 1

Which city hosted the 2022 Winter Olympics?

- ☐ A. Vancouver
- ☐ B. Beijing
- ☐ C. Pyeongchang
- ☐ D. Sochi

**Question: 36 of 50**

QID: 1825

Marks: 1

Which tennis player became the first to win 20 Grand Slam singles titles?

- ☐ A. Novak Djokovic
- ☐ B. Roger Federer
- ☐ C. Serena Williams
- ☐ D. Rafael Nadal

Question: 37 of 50

QID: 1835

Marks: 1

Which country was the first to implement a carbon tax to combat climate change?

- ☐ A. United States
- ☐ B. Sweden
- ☐ C. Canada
- ☐ D. France

Question: 38 of 50

QID: 1834

Marks: 1

Which animal is a symbol of the endangered species crisis due to habitat loss?

- ☐ A. Elephant
- ☐ B. Polar bear
- ☐ C. Kangaroo
- ☐ D. Rhino

Question: 39 of 50

QID: 1843

Marks: 1

Which organization is responsible for promoting international cooperation in matters of global peace and security?

- ☐ A. European Union
- ☐ B. United Nations
- ☐ C. World Bank
- ☐ D. NATO

Question: 40 of 50

QID: 1844

Marks: 1

Which organization is tasked with providing financial assistance to developing countries for economic development?

- ☐ A. World Health Organization
- ☐ B. International Monetary Fund
- ☐ C. World Bank
- ☐ D. United Nations Development Programme

Question: 41 of 50

QID: 1590

Marks: 1

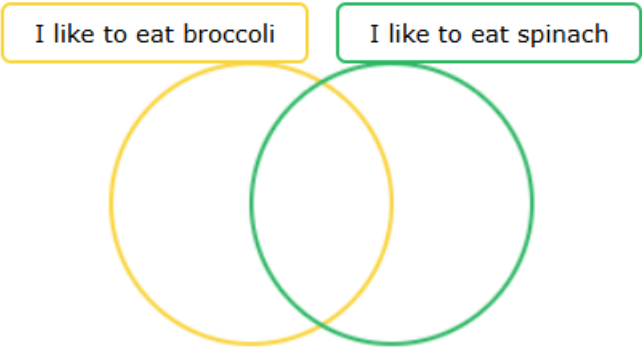
If  $x = 3$  and  $y = -2$ , what is the value of  $2x - 3y + 5$ ?

- ☐ A. 3
- ☐ B. 17
- ☐ C. 19
- ☐ D. 7

Evaluate the expression  $4a - b$  when  $a = 6$  and  $b = 3$ :

- ☐ A. 15
- ☐ B. 21
- ☐ C. 12
- ☐ D. 18

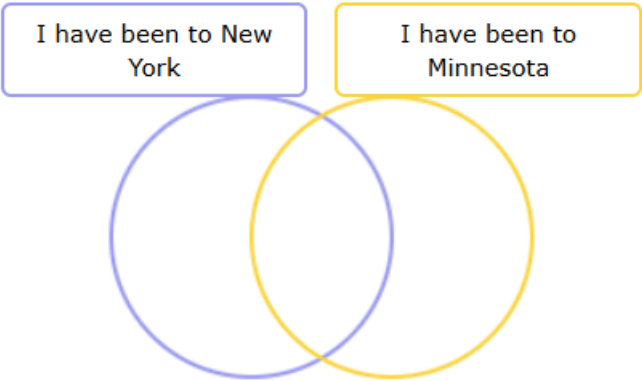
Of the students in Noah's grade, 9 like to eat broccoli. 6 students like to eat spinach. 5 students like to eat both broccoli and spinach.



How many students like to eat spinach but not broccoli?

- ☐ A. 3
- ☐ B. 5
- ☐ C. 2
- ☐ D. 1

5 of the students in Noah's class have been to New York. 6 students have been to Minnesota, and 3 students have been to both New York and Minnesota. How many students have been to Minnesota but not New York?



- ☐ A. 4
- ☐ B. 3
- ☐ C. 6
- ☐ D. 7



You pick a card at random. What is  $P(4)$ ?

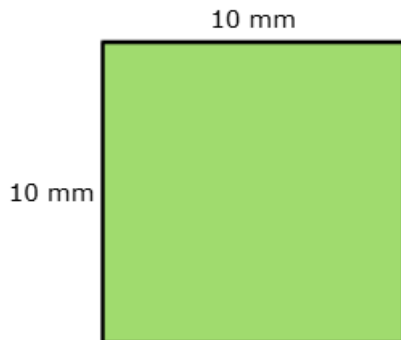
- ☐ A.  $\frac{1}{3}$
- ☐ B. 1
- ☐ C.  $\frac{1}{5}$
- ☐ D.  $\frac{1}{2}$



You roll a 6-sided die. What is  $P(\text{even or greater than 2})$ ?

- ☐ A.  $\frac{1}{3}$
- ☐ B.  $\frac{4}{9}$
- ☐ C.  $\frac{5}{6}$
- ☐ D.  $\frac{4}{5}$

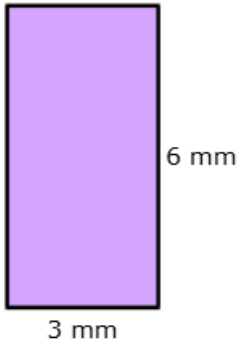
Look at this square:



If the side lengths are doubled, then which of the following statements about its perimeter will be true?

- ☐ A. The new perimeter will be 4 times the old perimeter.
- ☐ B. The new perimeter will be 2 times the old perimeter.
- ☐ C. The new perimeter will be 3 times the old perimeter.
- ☐ D. The new perimeter will be  $\frac{1}{2}$  of the old perimeter.

Look at this rectangle:



If the base is doubled, then which of the following statements about its area will be true?

- ☐ A. The new area will be 2 times the old area
- ☐ B. The new area will be  $\frac{1}{2}$  of the old area
- ☐ C. The new area will be 4 times the old area
- ☐ D. The new area will be 3 times the old area

Simplify the expression:  $3(x + 4) - 2(x - 5)$

- ☐ A.  $x + 17$
- ☐ B.  $x + 22$
- ☐ C.  $3x + 7$
- ☐ D.  $5x + 2$

Solve for  $x$ :  $5x + 7 = 22$

- ☐ A.  $x = 7$
- ☐ B.  $x = 3$
- ☐ C.  $x = 4$
- ☐ D.  $x = 2$

— END OF QUESTION PAPER —