Multiple choice questions - Real-life graphs

Year: Year 9 · 10

Question 1 On a distance-time graph, a horizontal line means:

- ◯ **A.** constant speed
- ◯ **B.** the object is stationary
- ◯ **C.** the object is accelerating
- ◯ **D.** the object is returning

Question 2 A line goes from (0,0) to (2, 90) on a distance-time graph (hours, km). The speed is:

- ◯ **A.** 45 km/h
- ◯ **B.** 90 km/h
- ◯ **C.** 180 km/h
- ◯ **D.** 0.022 km/h

Question 3 In C = 4m + 10, what does 10 represent?

- ◯ **A.** cost per mile
- ◯ **B.** fixed charge
- ◯ **C.** number of miles
- ◯ **D.** total cost

Question 4 Which graph shows doubling every hour?

- ◯ **A.** a straight line through the origin
- ◯ **B.** a reciprocal graph
- ◯ **C.** an exponential graph
- ◯ **D.** a horizontal line

Question 5 For y = 24/x, what is y when x = 8?

- ◯ **A.** 3
- ◯ **B.** 192
- ◯ **C.** 16
- ◯ **D.** 0.33

Question 6 A cyclist travels 45 km in 3 hours including a 1-hour rest. The average speed is:

- ◯ **A.** 22.5 km/h

- ◯ **B.** 15 km/h
- ◯ **C.** 45 km/h
- ◯ **D.** 11.25 km/h

Question 7 A tank fills at 6 litres per minute from empty. How much after 12 minutes?

- ◯ **A.** 72 litres
- ◯ **B.** 2 litres
- ◯ **C.** 18 litres
- ◯ **D.** 6 litres

Question 8 A population of 500 grows by 20% a year. After one year it is:

- ◯ **A.** 520
- ◯ **B.** 600
- ◯ **C.** 700
- ◯ **D.** 100

Question 9 On a distance-time graph, which line shows the fastest speed?

- ◯ **A.** the shallowest
- ◯ **B.** the steepest
- ◯ **C.** the horizontal one
- ◯ **D.** the longest

Question 10 For t = 60/v, doubling v:

- ◯ **A.** doubles t
- ◯ **B.** halves t
- ◯ **C.** leaves t the same
- ◯ **D.** adds 60 to t

Answer grid - Real-life graphs

Year: Year 9

Question	Answer	Explanation
1	**B**	The distance is not changing.
2	**A**	90 ÷ 2 = 45.
3	**B**	It is the value when m = 0.
4	**C**	Repeated multiplication gives an exponential curve.
5	**A**	24 ÷ 8 = 3.
6	**B**	Total distance over total time = 45 ÷ 3.
7	**A**	6 × 12.
8	**B**	500 × 1.2 = 600.
9	**B**	Steeper means more distance in the same time.
10	**B**	Inverse relationship.