∑ DANEMATHICS
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GRADE 8 · GRAPHS
Interpreting & Drawing Graphs

EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
38	1 hour	3

Name: ..... Class: .....

Date: .....

MARK ____ / 38

INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

1.1 On a distance-time graph, a HORIZONTAL section means the object is ... (1)

A) not moving **B)** moving backwards
C) slowing down **D)** speeding up

1.2 On a distance-time graph, the STEEPER the line, the ... (1)

A) slower the speed **B)** shorter the journey
C) longer the rest **D)** faster the speed

1.3 A cyclist travels 40 km in the first 2 hours. Her average speed is ... (1)

A) 20 km/h **B)** 38 km/h
C) 42 km/h **D)** 80 km/h

1.4 "The number of cars in a parking lot" is ... (1)

A) continuous **B)** discrete
C) neither **D)** both

1.5 "The temperature during the day" is ... (1)

A) always negative **B)** continuous
C) discrete **D)** neither

1.6 The highest point on a graph is called the ... (1)

A) minimum **B)** intercept
C) gradient **D)** maximum

1.7 The point $(2\ ;\ -5)$ lies in the ... quadrant. (1)

A) third **B)** first

C) fourth **D)** second

1.8 Reflecting the point $(2\ ;\ -5)$ in the x-axis gives ... (1)

A) $(-5\ ;\ 2)$ **B)** $(-2\ ;\ 5)$

C) $(2\ ;\ 5)$ **D)** $(-2\ ;\ -5)$

1.9 A graph made up of straight sections with DIFFERENT steepness is ... (1)

A) linear **B)** discrete

C) horizontal **D)** non-linear

1.10 A journey of 60 km takes 5 hours including a 1-hour rest. The average speed for the WHOLE journey is ... (1)

A) 15 km/h **B)** 10 km/h

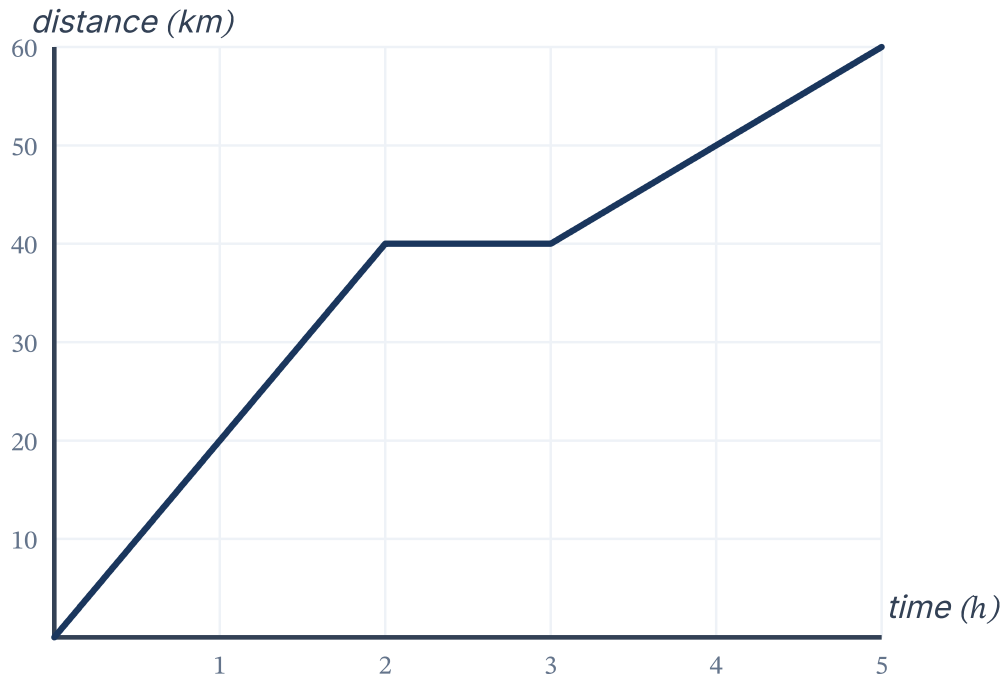
C) 12 km/h **D)** 60 km/h

ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1

1.1	A	B	C	D
1.2	A	B	C	D
1.3	A	B	C	D
1.4	A	B	C	D
1.5	A	B	C	D
1.6	A	B	C	D
1.7	A	B	C	D
1.8	A	B	C	D
1.9	A	B	C	D
1.10	A	B	C	D

QUESTION 2 **[16 MARKS]**

The graph below shows the distance a cyclist travelled during one afternoon.



2.1 Write down the distance the cyclist had travelled after 2 hours, and hence calculate her average speed over those first 2 hours. **(3)**

2.2 Describe what the flat (horizontal) section of the graph tells you about the cyclist, and write down how long it lasted. **(3)**

2.3 During which interval was the cyclist travelling fastest? Give a reason for your answer, and calculate her speed over the LAST 2 hours for comparison. **(4)**

2.4 Determine the total distance travelled and the total time taken, and hence her average speed for the WHOLE journey. **(4)**

2.5 Is this graph linear or non-linear? Give a reason for your answer. **(2)**

QUESTION 3 [12 MARKS]

Answer the questions below.

3.1 State whether 'the number of cars in a parking lot' is discrete or continuous, give a reason, and give ONE other example of the same kind of quantity. **(3)**

3.2 State whether 'the temperature during the day' is discrete or continuous, give a reason, and explain why its graph may be drawn as an unbroken line. **(3)**

3.3 Write down the name given to the highest point on a graph and to the lowest point, and state which of the two $y = x^2$ has. **(3)**

3.4 In which quadrant does the point $(2\ ;\ -5)$ lie? Give a reason, and write down the coordinates of its reflection in the x-axis. **(3)**

TOTAL: 38 marks

This question paper consists of 3 questions.

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