EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
39	1 hour	4

Name: _____ Class: _____

Date: _____

MARK ____ / 39

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 In a right-angled triangle, the square on the hypotenuse equals ... (1)

A) the SUM of the squares on the other two sides **B)** the sum of the other two sides
C) twice the area **D)** the difference of the other two squares

1.2 A right-angled triangle has legs of 8 cm and 15 cm. Its hypotenuse is ... (1)

A) 7 cm **B)** 289 cm
C) 23 cm **D)** 17 cm

1.3 A ladder 25 m long has its foot 7 m from a wall. It reaches ... up the wall. (1)

A) 32 m **B)** 24 m
C) 18 m **D)** 26 m

1.4 Which set of lengths does NOT form a right-angled triangle? (1)

A) 5 ; 12 ; 13 **B)** 6 ; 8 ; 10
C) 4 ; 5 ; 6 **D)** 9 ; 12 ; 15

1.5 In $\triangle PQR$, $PQ = 9$, $QR = 12$ and $PR = 15$. The right angle is at ... (1)

A) R **B)** there is none
C) Q **D)** P

1.6 To find a SHORTER side of a right-angled triangle, you ... (1)

A) SUBTRACT the squares **B)** add the two sides
C) halve the hypotenuse **D)** add the two squares

1.7 A rectangle is 24 cm by 7 cm. Its DIAGONAL is ... (1)

A) 17 cm **B)** 168 cm

C) 31 cm **D)** 25 cm

1.8 A right-angled triangle has legs of 5 cm and 5 cm. Its hypotenuse, in surd form, is ... (1)

A) 10 cm **B)** $\sqrt{50}$ cm

C) 25 cm **D)** $\sqrt{25}$ cm

1.9 The theorem of Pythagoras can be used to check whether a triangle ... (1)

A) has equal angles **B)** is equilateral

C) is RIGHT-ANGLED **D)** is isosceles

1.10 A pole 12 m tall is supported by a wire from its top to a point 5 m from its base. The wire is ... (1)

A) 13 m **B)** 17 m

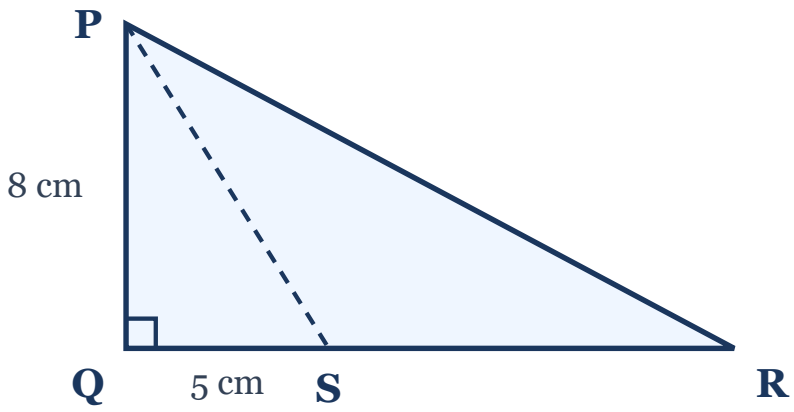
C) 60 m **D)** 7 m

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 [10 MARKS]

In the diagram below, $\triangle PQR$ has $\hat{Q} = 90°$, PQ = 8 cm and QR = 15 cm. S is a point on QR such that QS = 5 cm. *The diagram is not drawn to scale.*



2.1 Calculate the length of PR. Give a reason for your statement. **(3)**

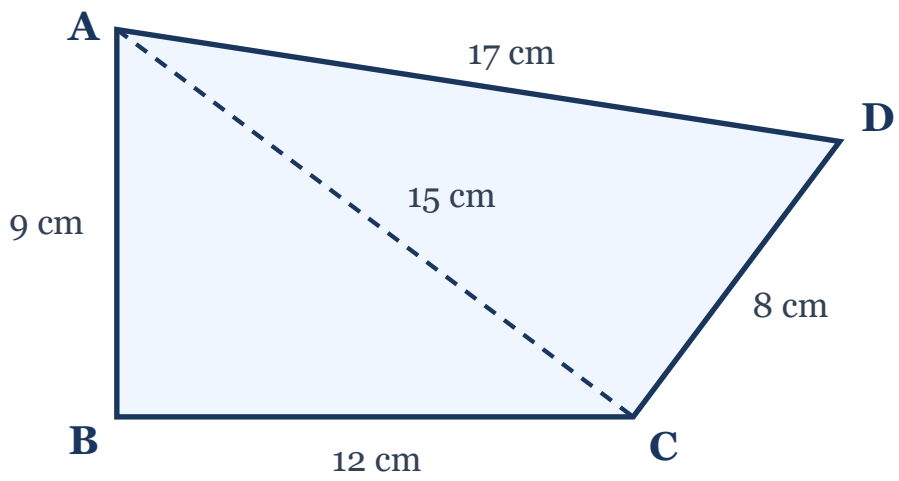
STATEMENT	REASON

2.2 Calculate the length of PS, correct to two decimal places. **(3)**

2.3 Hence calculate the perimeter of $\triangle PSR$, correct to one decimal place. **(4)**

QUESTION 3 **[10 MARKS]**

In the diagram below, ABCD is a quadrilateral with AB = 9 cm, BC = 12 cm, AC = 15 cm, CD = 8 cm and AD = 17 cm. *The diagram is not drawn to scale.*



3.1 Show, by calculation, that $A\hat{B}C = 90°$. **(3)**

STATEMENT	REASON

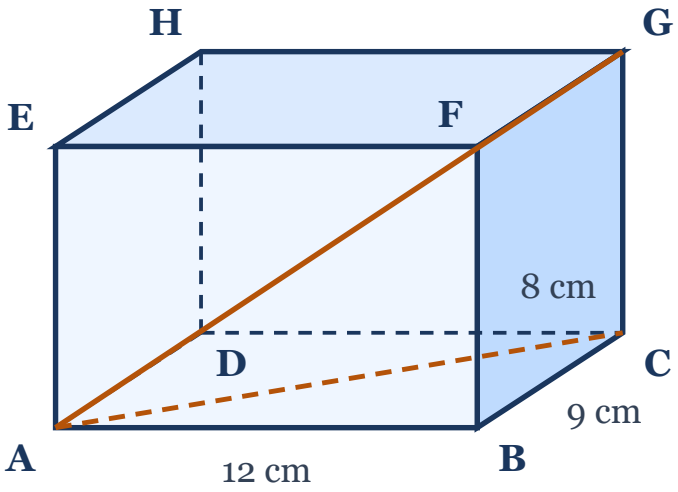
3.2 Show that △ACD is right-angled and write down which angle is the right angle. **(4)**

STATEMENT	REASON

3.3 Hence calculate the area of quadrilateral ABCD. **(3)**

QUESTION 4 [9 MARKS]

The diagram below shows a closed rectangular box with a length of 12 cm, a breadth of 9 cm and a height of 8 cm. AC is a diagonal of the base and AG is the longest straight rod that will fit inside the box.



4.1 Calculate the length of the base diagonal AC. (3)

4.2 Hence calculate the length of AG. (3)

4.3 A straight metal rod is 16 cm long. Will it fit inside the closed box? Give a reason for your answer. (3)

STATEMENT	REASON

TOTAL: 39 marks

This question paper consists of 4 questions.

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