Area & Perimeter of 2-D Shapes (Grade 9)

EXAM-STYLE CLASS TEST

MARKS	DURATION	QUESTIONS
33	50 minutes	3

Name: _____ Class: _____

Date: _____

MARK ____ / 33

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 The area of a trapezium with parallel sides 14 cm and 22 cm and height 9 cm is ... (1)

A) 324 cm^2 **B)** 162 cm^2
C) 126 cm^2 **D)** 45 cm^2

1.2 The area of a parallelogram with base 12 cm and PERPENDICULAR height 7 cm is ... (1)

A) 38 cm^2 **B)** 84 cm^2
C) 42 cm^2 **D)** 19 cm^2

1.3 The circumference of a circle of radius 7 cm, with $\pi \approx 3{,}14$, is ... (1)

A) 43,96 cm **B)** 153,86 cm
C) 21,98 cm **D)** 14 cm

1.4 A circle has an area of 153,86 cm^2 ($\pi \approx 3{,}14$). Its RADIUS is ... (1)

A) 49 cm **B)** 14 cm
C) 7 cm **D)** 24,5 cm

1.5 If the RADIUS of a circle is doubled, its area is multiplied by ... (1)

A) 8 **B)** 2
C) 4 **D)** π

1.6 A composite shape is a rectangle 10 cm by 6 cm with a 4 cm by 3 cm rectangle cut out. Its area is ... (1)

A) 72 cm^2 **B)** 60 cm^2
C) 12 cm^2 **D)** 48 cm^2

1.7 The perimeter of a semicircle of radius 10 cm ($\pi \approx 3{,}14$) is ... (1)

A) $31{,}4$ cm **B)** $51{,}4$ cm

C) $41{,}4$ cm **D)** $62{,}8$ cm

1.8 Area is measured in ... (1)

A) cm^2 **B)** no units

C) cm^3 **D)** cm

1.9 A square and a circle both have a perimeter of 40 cm. Which has the LARGER area? (1)

A) it cannot be decided **B)** they are equal

C) the circle **D)** the square

1.10 The area of a rhombus with diagonals 12 cm and 16 cm is ... (1)

A) $56\ cm^2$ **B)** $28\ cm^2$

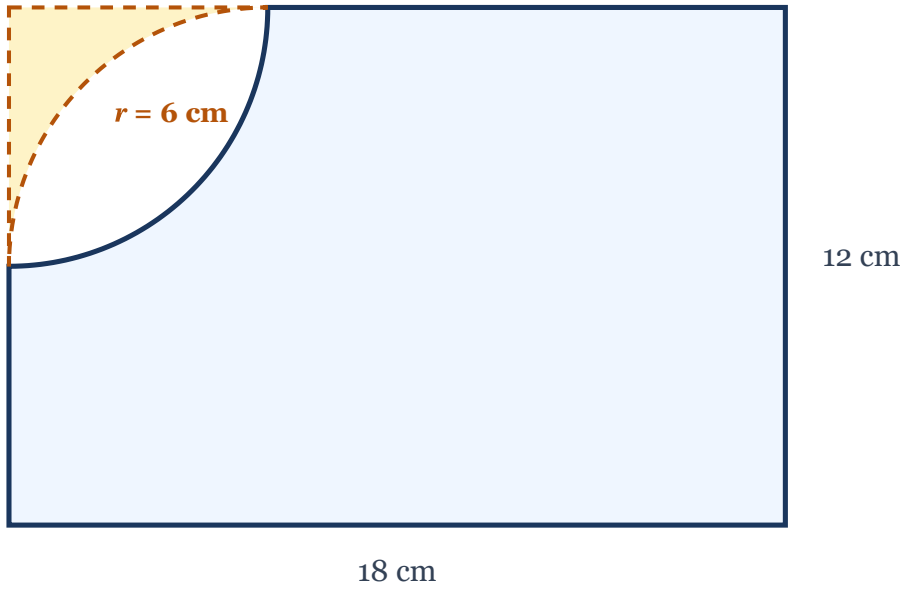
C) $192\ cm^2$ **D)** $96\ cm^2$

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]

A rectangular metal plate is 18 cm long and 12 cm wide. A quarter circle of radius 6 cm is cut away from one corner. Use $\pi = 3{,}14$.



2.1 Calculate the area of the whole rectangle. **(3)**

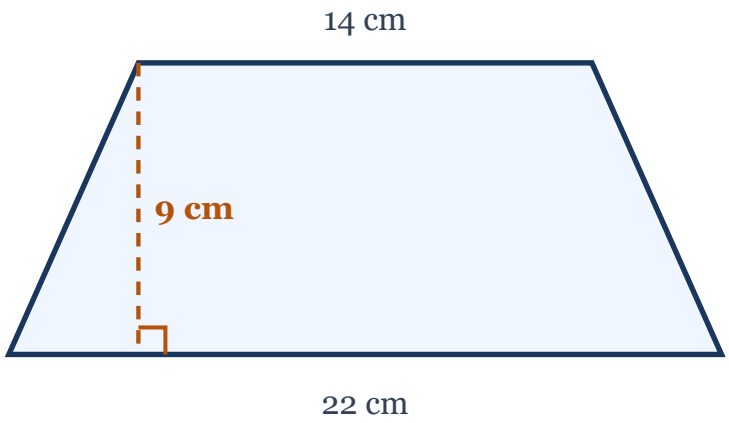
2.2 Calculate the area of the quarter circle that is cut away, correct to two decimal places. **(4)**

2.3 Hence calculate the area of the metal that remains. **(3)**

QUESTION 3

[13 MARKS]

Answer the following.



3.1 A trapezium has parallel sides of 14 cm and 22 cm and a perpendicular height of 9 cm. Calculate its area. **(3)**

3.2 The circumference of a circle is 44 cm. Calculate its radius, correct to two decimal places. Use $\pi = 3{,}14$. **(4)**

3.3 Hence calculate the area of that circle, correct to one decimal place. **(3)**

3.4 The radius of a circle is doubled. Explain what happens to its area, and justify your answer. **(3)**

TOTAL: 33 marks

This question paper consists of 3 questions.

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