FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

G4: Properties of shapes

Solve problems using properties of quadrilaterals and triangles

20 marks · 25 minutes · Non-calculator

1) A kite has two equal angles of 105°. Its other two angles are x and $2x$. Find them.

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[Question 1: 3 marks]

2) A rhombus has diagonals of 12 cm and 16 cm. Find its perimeter and its area.

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[Question 2: 4 marks]

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3) Two adjacent angles of a parallelogram are $(3x + 10)°$ and $(5x - 30)°$. Find both angles.

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[Question 3: 3 marks]

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4) An isosceles trapezium has parallel sides of 10 cm and 4 cm, and its other two sides are 5 cm. Find its area.

..... cm^2

[Question 4: 3 marks]

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5) A rectangle has a diagonal of 13 cm and one side of 5 cm. Find its area.

..... cm^2

[Question 5: 2 marks]

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6) A square and an equilateral triangle have the same perimeter. The triangle has sides of 12 cm. Find the area of the square.

..... cm^2

[Question 6: 2 marks]

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7) An isosceles triangle has sides $2x$, $2x$ and $(x + 6)$ cm. Its perimeter is 41 cm. Find the lengths of its sides.

..... cm

[Question 7: 3 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	50 and 100	$3x + 210 = 360$ (P1, P1); A1.
2	40 cm; 96 cm^2	Half diagonals 6 and 8 (P1); side 10 (P1); perimeter 40 (A1); area $\frac{1}{2} \times 12 \times 16$ (A1).
3	85 and 95	$8x - 20 = 180$ (P1); $x = 25$ (P1); A1.
4	28	Overhang 3 each side (P1); height 4 (P1); A1.
5	60	Other side 12 (P1); A1.
6	81	Perimeter 36 (P1); A1.
7	14, 14, 13	$5x + 6 = 41$ (P1); $x = 7$ (P1); A1.