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

MEMORANDUM

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

Date: .....

MARK ____ / 25

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

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1 A square has an area of 225 cm^2. Determine the length of one side, and hence its perimeter. **(3)**

> side $= \sqrt{225} =$ **15 cm** *(2)*
> Perimeter $= 4 \times 15 =$ **60 cm** *(1)* ✓✓✓ (3)

2 Area of a rectangle 9 cm by 6 cm. **(1)**

> **54 cm^2** ✓ (1)

3 Perimeter of a rectangle 9 cm by 6 cm. **(2)**

> $2(9 + 6) =$ **30 cm** ✓✓ (2)

4 Area of a triangle, base 12 cm, height 7 cm. **(2)**

> $\frac{1}{2} \times 12 \times 7 =$ **42 cm^2** ✓✓ (2)

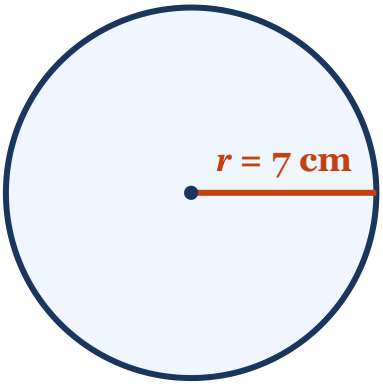
5 Area of a parallelogram, base 9 cm, height 5 cm. **(2)**

> **45 cm^2** ✓✓ (2)

6 Area of a trapezium, parallel sides 8 cm and 12 cm, height 5 cm. **(3)**

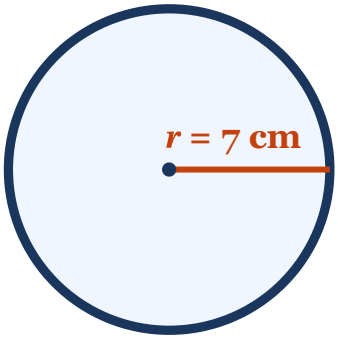
> $\frac{1}{2}(20) \times 5 =$ **50 cm^2** ✓✓✓ (3)

7 Area of a circle with radius 7 cm ($\pi \approx 3{,}14$). (2)



$3{,}14 \times 49 = \mathbf{153{,}86\ cm^2}$ ✓✓ (2)

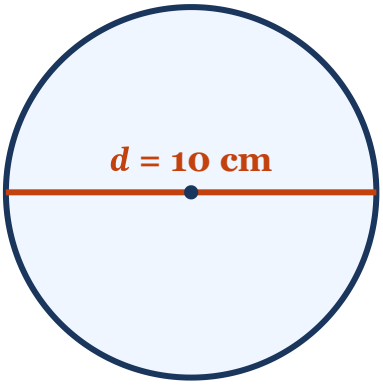
8 Circumference of a circle with radius 7 cm ($\pi \approx 3{,}14$). (2)



the distance all the way around

$2 \times 3{,}14 \times 7 = \mathbf{43{,}96\ cm}$ ✓✓ (2)

9 Area of a circle with diameter 10 cm ($\pi \approx 3{,}14$). (3)



$r = 5 \rightarrow 3{,}14 \times 25 = \mathbf{78{,}5\ cm^2}$ ✓✓✓ (3)

10 A 10×8 rectangle has a 3×2 piece cut out. Find the remaining area. **(3)**

> $80 - 6 = \mathbf{74\ cm^2}$ ✓✓✓ **(3)**

11 A shape is enlarged by scale factor 3. What happens to its area? **(2)**

> It becomes **9 times** bigger (3^2). ✓✓ **(2)**

TOTAL: 25 marks

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