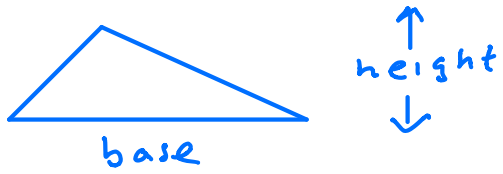
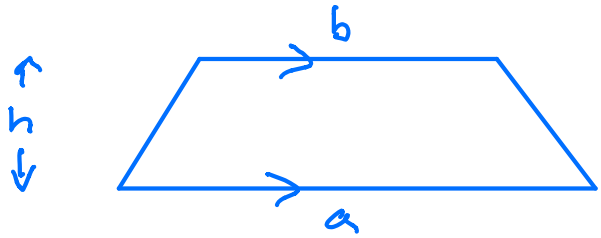
# Area and Perimeter

Area of Triangle $= \frac{1}{2}$ base $\times$ height




Area of Trapezium

$\frac{1}{2}(a+b)h$

= half the sum of the parallel sides multiplied by the height.

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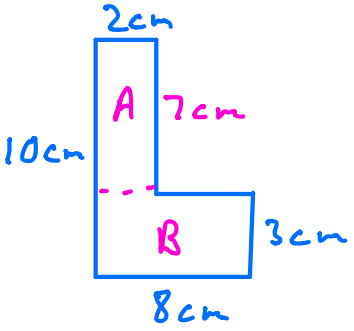
## Area of Compound Shapes

### Example 1a

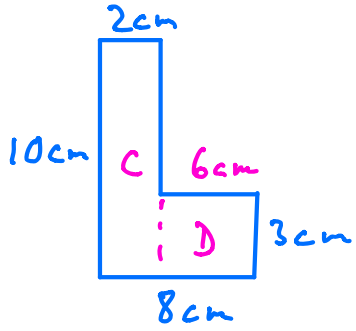



A = 7 x 2 = 14

B = 8 x 3 = 24 +

Area of L 38 $cm^2$

### Example 1b

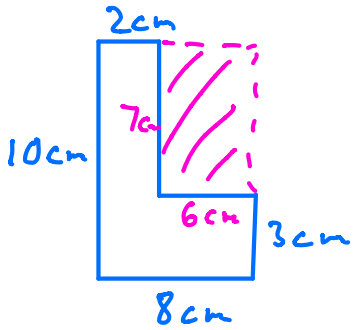



C = 10 x 2 = 20

D = 6 x 3 = 18 +

Area of L 38 $cm^2$

Example 1c




Area of L shape

= Area of outer rectangle

− Area of shaded rectangle

Outer □ = $10 \times 8 = 80$

Shaded □ = $7 \times 6 = 42$ −

Area of L $38\ cm^2$

Perimeter = $2 + 7 + 6 + 3 + 8 + 10$

= $36\ cm$

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See exercise from themathsteacher.com

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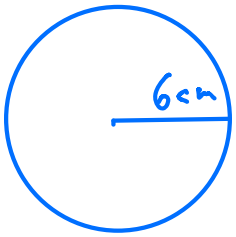
## Circle

Ex1



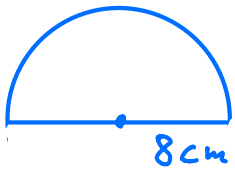

Area $= \pi r^2 = \pi \times 6^2 = 113.097$

$= 113\ cm^2$

circumference $= 2\pi r = 2\pi \times 6 = 37.699$

$= 37.7\ cm$

Ex 2




Area $= \frac{\pi r^2}{2} = \frac{\pi \times 8^2}{2} = 100.53$

$= 100\ cm^2$

Perimeter $= \frac{2\pi r}{2} + 2r$

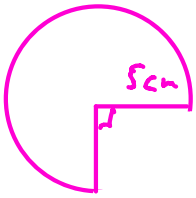
$= \frac{2\pi \times 8}{2} + 2 \times 8 = 41.13 = 41.1\ cm$

Exercise Find area and perimeter

1) 


$$\text{Area} = \frac{\pi r^2}{4} = \frac{\pi \times 7^2}{4} = 38.5 \text{ cm}^2$$

$$\text{Perimeter} = \frac{2\pi r}{4} + 2r = \frac{2\pi \times 7}{4} + 2 \times 7 = 25.0 \text{ cm}$$

2) 


$$\text{Area} = \frac{3\pi r^2}{4} = \frac{3\pi \times 5^2}{4} = 58.9 \text{ cm}^2$$

$$\text{Perimeter} = 2\pi r \times \frac{3}{4} + 2r$$

$$= 2\pi \times 5 \times \frac{3}{4} + 2 \times 5 = 33.6 \text{ cm}$$