

Perimeter

- the distance around a two-dimensional shape length units (m, cm, ft, in, mm...)

**Examples**

1. A rectangle has side lengths of 3 cm and 7 cm. What is its perimeter?



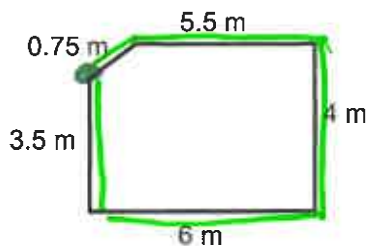
(OR)

$$P = 7 + 3 + 7 + 3 = 20$$

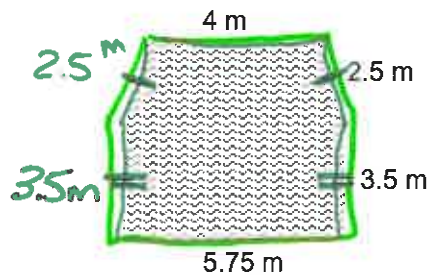
$$P = 2(7 + 3) = 2(10) = 20$$

20 cm

2. Calculate the perimeter of the following figures. Show your work.



$$P = 0.75 + 5.5 + 4 + 6 + 3.5 = 19.75 \text{ m}$$



$$P = 4 + 2.5 + 3.5 + 5.75 + 3.5 + 2.5 = 21.75 \text{ m}$$

(OR)

$$P = 4 + 5.75 + 2(2.5) + 2(3.5) = 21.75 \text{ m}$$

circumference (perimeter of a circle)

- the distance around a circle

diameter

- the distance from one point on a circle through the center to another point on the circle



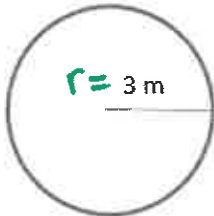
radius

- the distance from the center to the circumference of a circle (half the diameter)

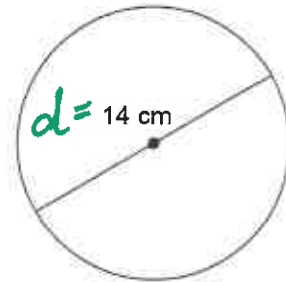


**Examples**  $C = \pi d$      $C = 2\pi r$     \* use value of  $\pi$  on your calculator.

1. Calculate the circumference of the following circles. Show your work. Round your answer to the nearest hundredth.

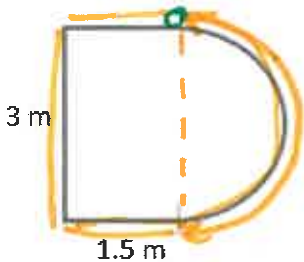


$$\begin{aligned} C &= 2\pi r \\ &= 2\pi(3) \\ &= 18.8495\dots \\ &= \boxed{18.85 \text{ m}} \end{aligned}$$



$$\begin{aligned} C &= \pi d \\ &= \pi(14) \\ &= 43.9822\dots \\ &= \boxed{43.98 \text{ cm}} \end{aligned}$$

2. Calculate the perimeter of the following figure. Show your work. Round your



half circle

$$d = 3 \text{ m}$$

$$C = \frac{\pi(3)}{2}$$

$$= 4.71 \text{ m} \quad \leftarrow \text{divide by 2 (half circle)}$$

$$\begin{aligned} P &= 4.71 + 1.5 + 3 + 1.5 \\ &= \boxed{10.71 \text{ m}} \end{aligned}$$

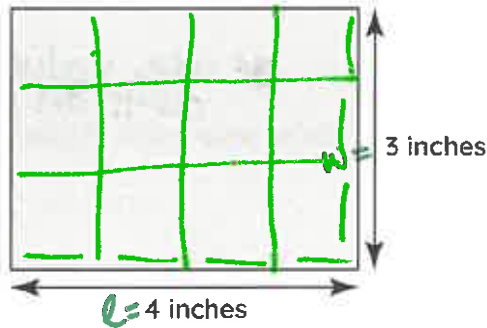
# Area

- the amount of space occupied by a flat (2-dimensional) shape

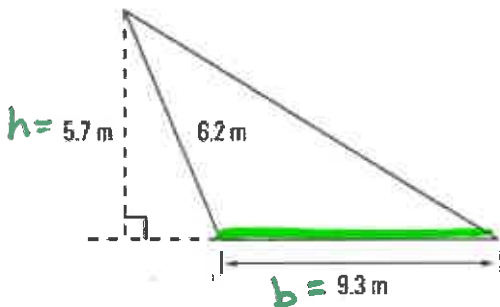
units<sup>2</sup> (m<sup>2</sup>, mm<sup>2</sup>, ft<sup>2</sup>, km<sup>2</sup>...)

## Examples

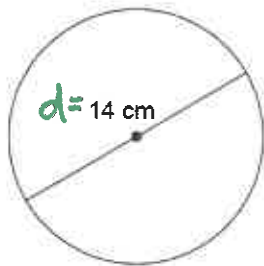
- Calculate the area of the following figures. Show your work. Round your answers to the nearest hundredth.



$$\begin{aligned}
 A &= lw \\
 &= (4)(3) \\
 &= 4 \times 3 \\
 &= \boxed{12 \text{ in}^2}
 \end{aligned}$$



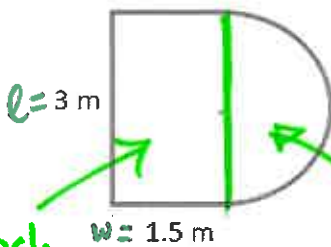
$$\begin{aligned}
 A &= \frac{b \times h}{2} \\
 &= \frac{9.3 \times 5.7}{2} \\
 &= \frac{26.505}{2} \\
 &= \boxed{26.51 \text{ m}^2}
 \end{aligned}$$



$$\begin{aligned}
 A &= \pi r^2 \\
 &= \pi (7)^2 \\
 &= \pi (49) \\
 &= 153.938\dots
 \end{aligned}$$

$$\begin{aligned}
 r &= 14 \div 2 \\
 &= 7 \text{ cm}
 \end{aligned}$$

$$\rightarrow \boxed{153.94 \text{ cm}^2}$$



rectangle

$$\begin{aligned}
 A &= l \times w \\
 &= 3 \times 1.5 \\
 &= 4.5
 \end{aligned}$$

half circle

$$\begin{aligned}
 r &= 3 \div 2 \\
 &= 1.5 \text{ m} \\
 A &= \frac{\pi r^2}{2} \\
 &= \frac{\pi (1.5)^2}{2} \\
 &= 3.53
 \end{aligned}$$

$$\begin{aligned}
 \text{Area} &= 4.5 + 3.53 \\
 &= \boxed{8.03 \text{ m}^2}
 \end{aligned}$$