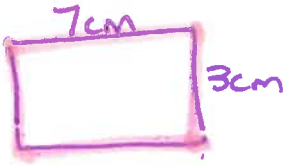
NOTES: Perimeter and Area Review Date: Feb. 22

PERIMETER • the distance around a two-dimensional shape

length units (mm, cm, ft, in...)

Examples

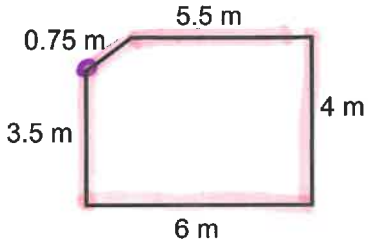
1. A rectangle has side lengths of 3 cm and 7 cm. What is its perimeter?



$P = 7 + 3 + 7 + 3$

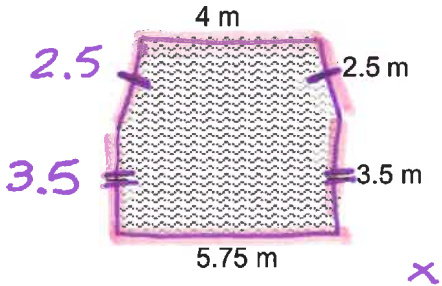
$= \boxed{20\text{ cm}}$

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



$P = 0.75 + 5.5 + 4 + 6 + 3.5$

$= \boxed{19.75\text{ m}}$



$P = 4 + 5.75 + 2(2.5) + 2(3.5)$

$= 4 + 5.75 + 5 + 7$

$= \boxed{21.75\text{ m}}$

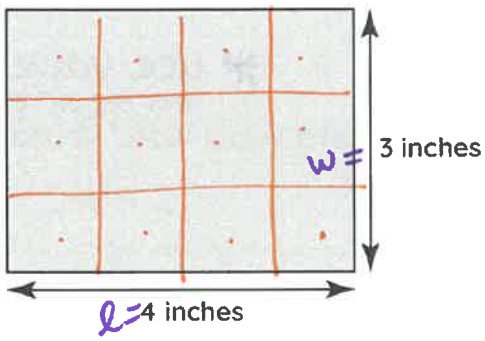
AREA

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

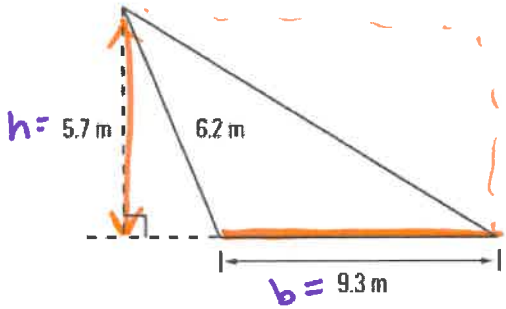
units^2 (cm^2, m^2, ft^2, in^2...)

Examples

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

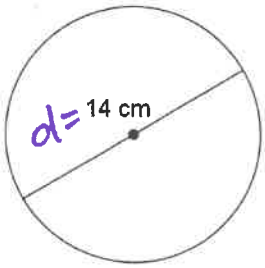


$A = lw$
$= 4 \times 3$
$= \boxed{12\ in^2}$



$A = \frac{bh}{2}$
$= \frac{9.3 \times 5.7}{2}$
$= 26.505$
$= \boxed{26.51\ m^2}$

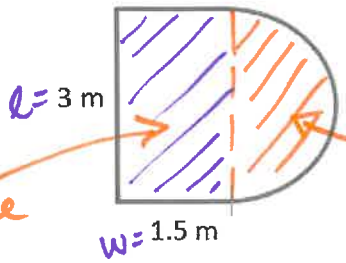
* b and h have to be perpendicular to each other



$r = 14 \div 2$
$= 7m$

$A = \pi r^2$
$= \pi \times 7^2$
$= 153.93804...$
$= \boxed{153.94\ cm^2}$

$7^2 = 7 \times 7$
$= 49$



rectangle
$A = lw$
$= 3 \times 1.5$
$= 4.5m^2$

half circle $d = 3$, $r = 1.5$
$A = \pi \times 1.5^2$
$= 7.0685...$
$\div 2 = 3.53m^2$

Total Area
$= 4.5 + 3.53$
$= \boxed{8.03m^2}$

CIRCUMFERENCE (perimeter of circle)
- the distance around a circle

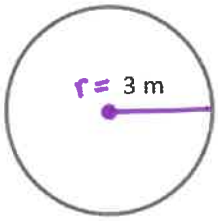
DIAMETER
- the distance from one point on a circle through the center to another point on the circle

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

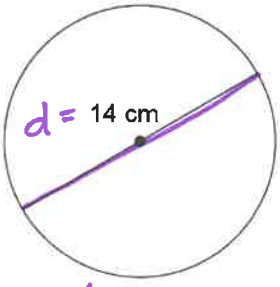
Examples

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

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

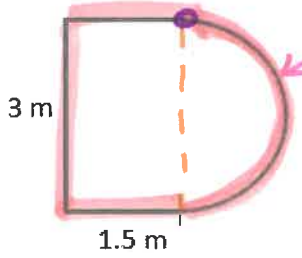


$C = 2\pi r$
$= 2 \times \pi \times 3$
$= 18.8495...$
$= \boxed{18.85 \text{ m}}$



$C = \pi d$
$= \pi \times 14$
$= 43.9822...$
$= \boxed{43.98 \text{ cm}}$

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



half a circle
$d = 3$
$C = \pi \times 3$ ← whole circle
$= 9.4247...$
$\div 2$
$= 4.71 \text{ m}$ ← half circle

$P = 4.71 + 1.5 + 3 + 1.5$
$= \boxed{10.71 \text{ m}}$