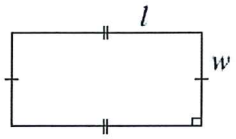
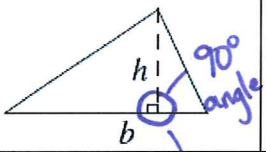
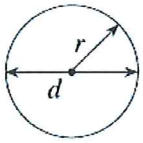
3.1 Areas of 2D Figures – Part 1

The **area** of a shape is the size of its surface. You can also think of this as how much paint would cover the shape. We use square units for area, such as cm^2, m^2, ft^2 etc.

We will start by finding the area of simple shapes such as rectangles, triangles and circles, as these are the building blocks of other shapes. We find these areas using these formulas:

2D Figure	Rectangle	Triangle	Circle
			
Area	$A = lw$	$A = \frac{bh}{2}$	$A = \pi r^2$

$r = d \div 2$

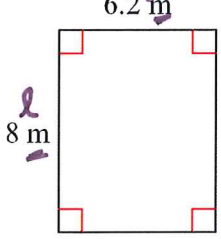
use π button on your calc!

base & height must be 90° to each other.

Examples

Ex 1. Find the area of each. Round to the nearest tenth where necessary. to one decimal place

a)

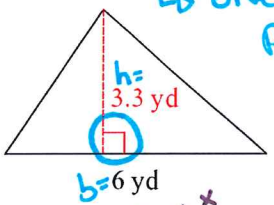


$A = lw$ ×

$= 8m \cdot 6.2m$

$= 49.6 m^2$

b)

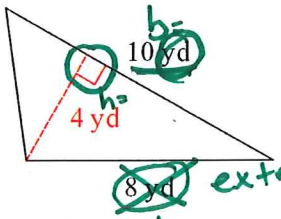


$A = \frac{bh}{2}$ × ÷

$= \frac{6 \cdot 3.3}{2}$

$= \frac{19.8}{2} = 9.9 yd^2$

c)



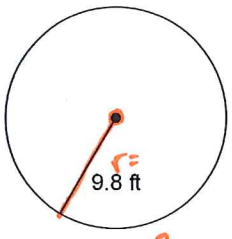
extra info ∴

$A = \frac{bh}{2}$

$= \frac{10 \times 4}{2}$

$= \frac{40}{2} = 20 yd^2$

d)



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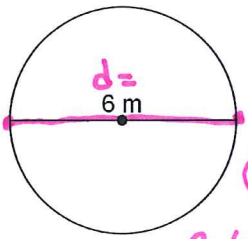
$A = \pi r^2$

$= \pi \times 9.8^2$ → 9.8×9.8

$= \pi \times 96.04$

$= 301.7 ft^2$

e)



$r = d \div 2$

$r = 6 \div 2$

$r = 3m$

$A = \pi r^2$

$= \pi \times 3^2$

$= \pi \times 9$

$= 28.3 m^2$

* use π button