

AW Math 11

Day 2: Composite Shapes and Working Backwards

Composite Shape (Figure): Comprised of 2 or more basic shapes
Shapes → often more than 2 way to break up + calculate

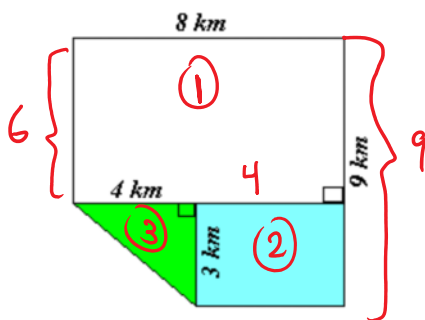
Example 1:

a) Name the basic shapes in the composite figure below. What formulae will be needed?

Rectangles $A = L \times W$

Triangle $A = \frac{b \times h}{2}$

b) Find the area of the shape.



$A_1 = 8 \times 6 = 48 \text{ km}^2$

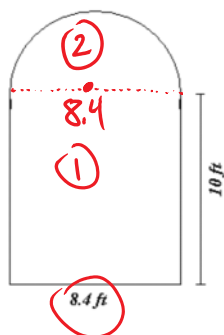
$A_2 = 3 \times 4 = 12 \text{ km}^2$

$A_3 = \frac{4 \times 3}{2} = 6 \text{ km}^2$

Total = $48 + 12 + 6 = 66 \text{ km}^2$

Example 2:

This window can be viewed as a semi-circular shape upon a rectangular base. If the rectangular portion is 8.4' by 10', find the total area of the figure.



$A_1 = 8.4 \times 10 = 84 \text{ ft}^2$

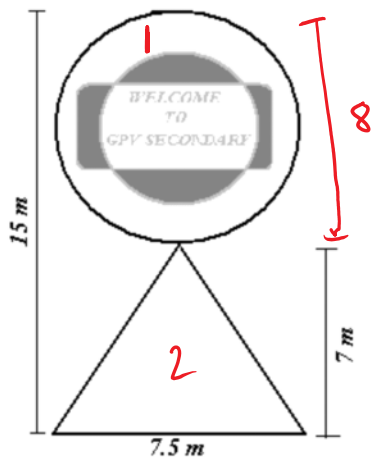
radius = $\frac{8.4}{2} = 4.2$

$A_2 = \pi r^2 = \pi (4.2)^2 = 55.4 \div 2 \text{ (semi circle)} = 22.7 \text{ ft}^2$

total: $84 + 22.7 = 106.7 \text{ ft}^2$

Example 3:

The design of a newly proposed GP Vanier Secondary school sign is shown below. With the given dimensions what is the area of the front view?



$$A_1 = \pi r^2$$

$$= \pi (4)^2$$

$$= 50.27 \text{ m}^2$$

$$A_2 = \frac{b \times h}{2}$$

$$= \frac{7.5 \times 7}{2}$$

$$= 26.25 \text{ m}^2$$

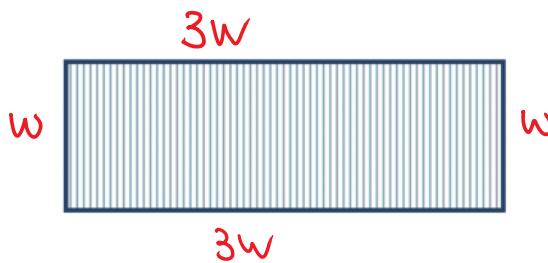
$$\text{total} = 50.27 + 26.25$$

$$= 76.52 \text{ m}^2$$

~~There is a bonus sheet for those of you who finish today's assignment. There are several questions such as the final example below:~~

Example 4:

The length of a rectangle is three times its width. It has a perimeter of 76 cm. What is its width?



$$3w + 3w + w + w$$

$$= 8w$$

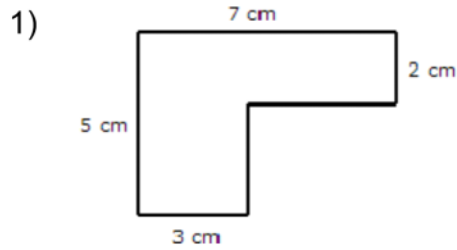
$$\frac{8w}{8} = \frac{76}{8}$$

$$w = 9.5 \text{ cm}$$

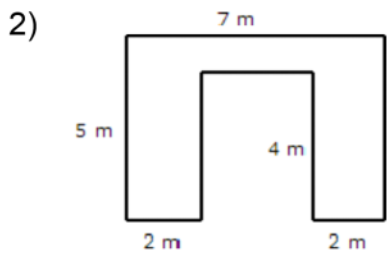
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Day 2 Assignment: Composite Shapes

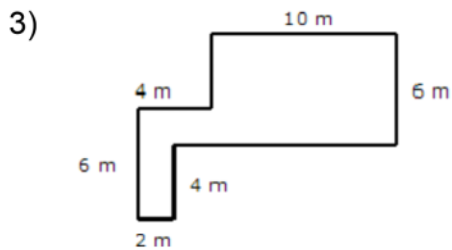
Find the areas of the given composite shapes. Divide into simpler shapes and add or subtract your results.



AREA
1) _____ cm²



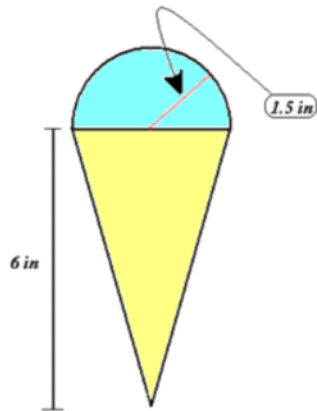
2) _____ m²



3) _____

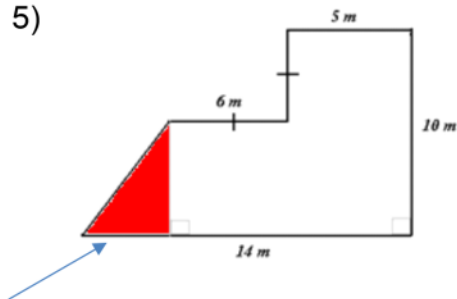
Did you remember units?

4)



4) _____

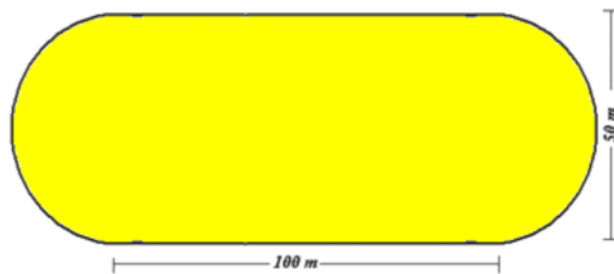
5)



5) _____

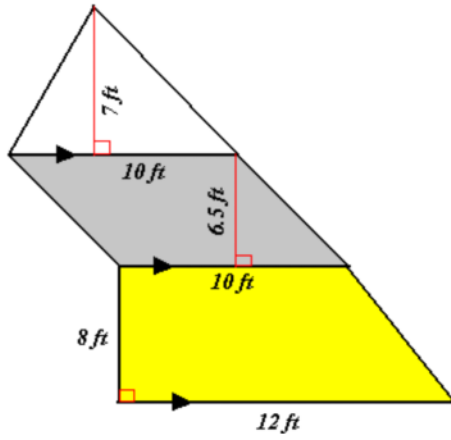
Ignore this shading!

6)



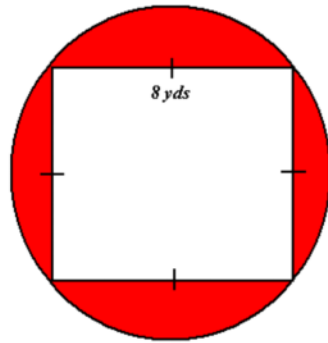
6) _____

7)



7) _____

8)

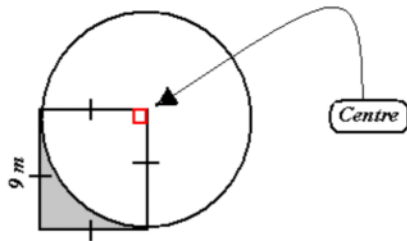


Find the area of the shaded region

8) _____

Hint: Think Pythagoras!

9)



Find the area of the shaded region

9) _____