

13.4 Area of Composite Figures p.572

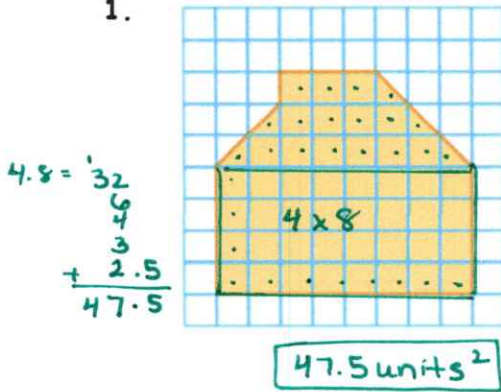
A composite figure is made up of 2 or more figures. (aka complex figures or irregular shapes)

To find the area of composite figure, separate it into shapes with areas you know how to find. Then find the **SUM** of those areas of the figures.

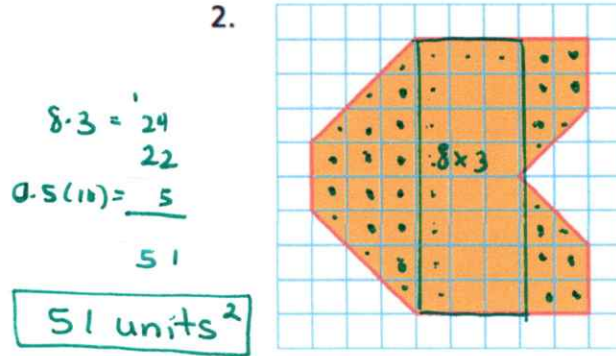
To find the area of a figure on grid paper, count each square that lies entirely in the square as one. $\frac{1}{2}$ squares will be counted as 0.5. We won't use other partial squares. **DON'T FORGET TO WRITE THE UNITS.**

Find the area of the shaded figure.

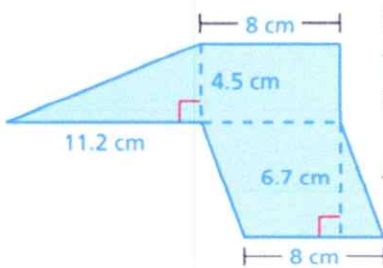
1.



2.



Here's an example of a composite figure:



Find the area of the figure.

The figure is made up of a triangle, a rectangle, and a parallelogram. Find the area of each figure.

Area of Triangle

$$\begin{aligned}
 A &= \frac{1}{2}bh \\
 &= \frac{1}{2}(11.2)(4.5) \\
 &= 25.2
 \end{aligned}$$

Area of Rectangle

$$\begin{aligned}
 A &= \ell w \\
 &= 8(4.5) \\
 &= 36
 \end{aligned}$$

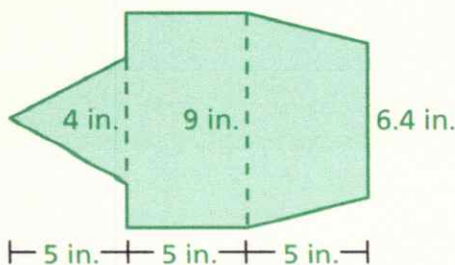
Area of Parallelogram

$$\begin{aligned}
 A &= bh \\
 &= 8(6.7) \\
 &= 53.6
 \end{aligned}$$

So, the area is $25.2 + 36 + 53.6 = 114.8$ square centimeters.

Find the area of the composite figures.

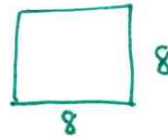
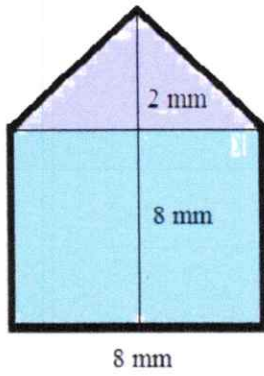
1.



$$\begin{aligned}
 &\frac{bh}{2} = \frac{5(4)}{2} = 10 \\
 &\ell w = 9 \cdot 5 = 45 \\
 &\frac{h(b+b)}{2} = \frac{5(9+6.4)}{2} = 38.5
 \end{aligned}$$

10 + 45 + 38.5 = 93.5 in²

2.



$$\frac{bh}{2}$$

$$s^2$$

$$\frac{8(2)}{2}$$

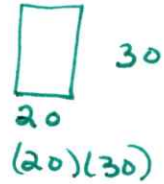
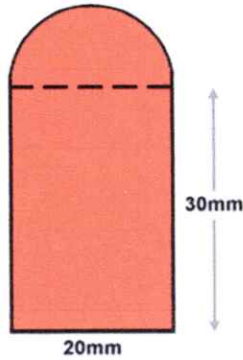
+

$$8^2$$

$$(8) + (64)$$

$$= 72 \text{ mm}^2$$

3.



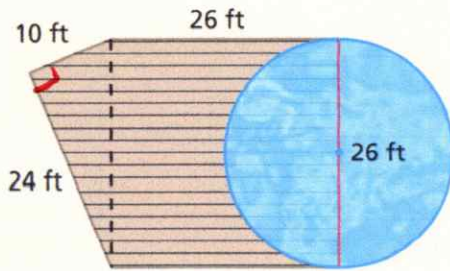
$$\frac{3.14(10)^2}{2}$$

$$= \frac{3.14(100)}{2}$$

$$= (157) + (600)$$

$$= 757 \text{ mm}^2$$

4.

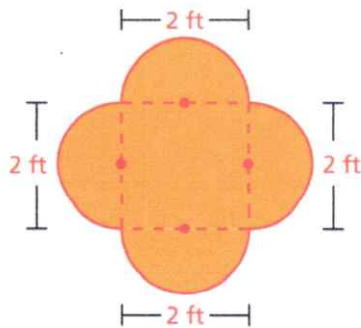


$$\frac{10(24)}{2} + 26(26) + \frac{3.14(13)^2}{2}$$

$$(120) + (676) + (265.33)$$

$$= 1061.33 \text{ ft}^2$$

5.

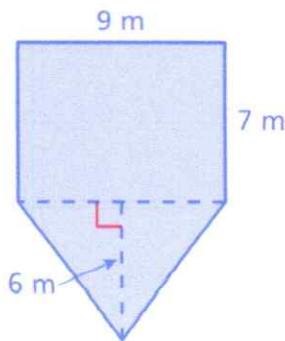


$$4 \left(\frac{3.14(1)^2}{2} \right) = \frac{4}{1} \cdot \frac{3.14}{2}$$

$$= (6.28) + (4)$$

$$= 10.28 \text{ ft}^2$$

6.



$$9 \cdot 7$$

$$(63) +$$

$$\frac{9 \cdot 6}{2}$$

$$(27) =$$

$$90 \text{ m}^2$$