

Lesson 13.4:

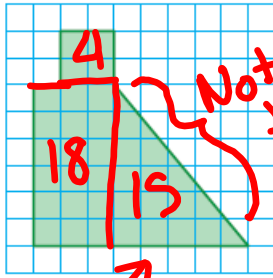
Areas of Composite Figures

Essential Question

How can you find the area of a composite figure?

Find the area of the shaded figure.

1.

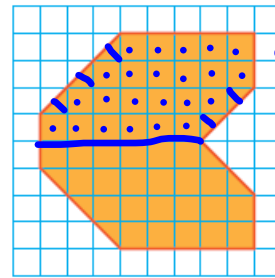


$$\frac{1}{2}(5 \cdot 6)$$

$$18 + 15 + 4$$

$$37$$

2.



$$2(23 + \frac{1}{2} \cdot 5)$$

$$2(23 + 2.5)$$

$$2(25.5)$$

$$51$$

Find the area of the portion of the basketball court shown.



We see that this figure is formed by an overlap between a circle and a rectangle. There are a few different ways to go about finding the area. The most straightforward is by adding the areas of the semicircle and rectangle.

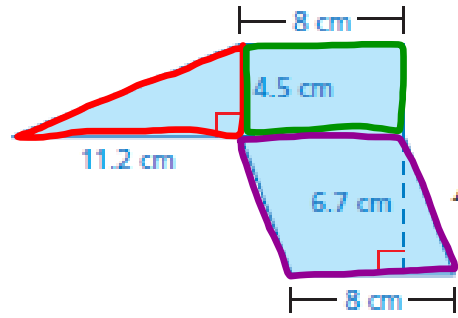
$$\frac{1}{2}\pi r^2 + l \cdot w$$

$$\frac{1}{2} \cdot 3.14 \cdot 6^2 + 19 \cdot 12$$

$$56.52 + 228$$

$$284.52 \text{ ft}^2$$

Find the area of the figure.

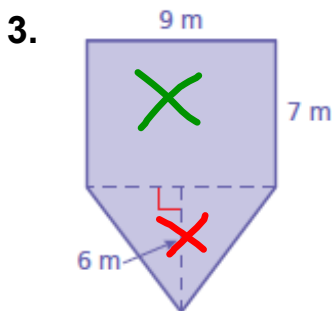


$$\frac{1}{2} \cdot 11.2 \cdot 4.5 + 8 \cdot 4.5 + 8 \cdot 6.7$$

$$25.2 + 36 + 53.6$$

$$114.8 \text{ cm}^2$$

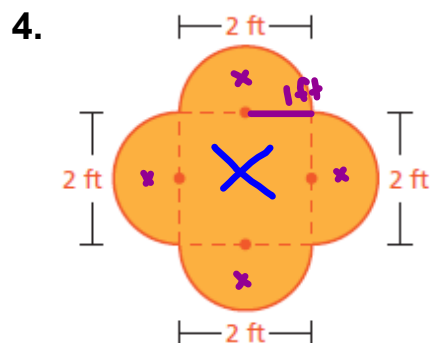
Find the area of the figure.



$$9 \cdot 7 + \frac{1}{2} \cdot 9 \cdot 6$$

$$63 + 27$$

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



$$2 \cdot 2 + 2(\pi r^2)$$

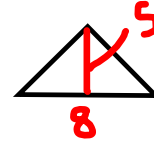
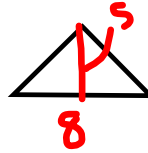
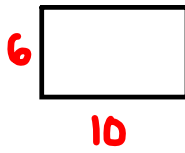
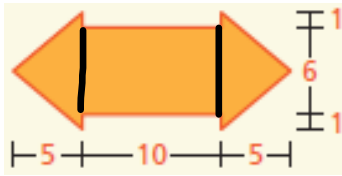
$$4 + 2(3.14 \cdot 1^2)$$

$$4 + 6.28$$

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

We have 4 semicircles, which makes 2 full circles.

- **Exit Ticket:** Find the area.



$$6 \cdot 10 + 2 \left(\frac{1}{2} \cdot 8 \cdot 5 \right)$$

$$60 + 40$$

$$100 \text{ u}^2$$