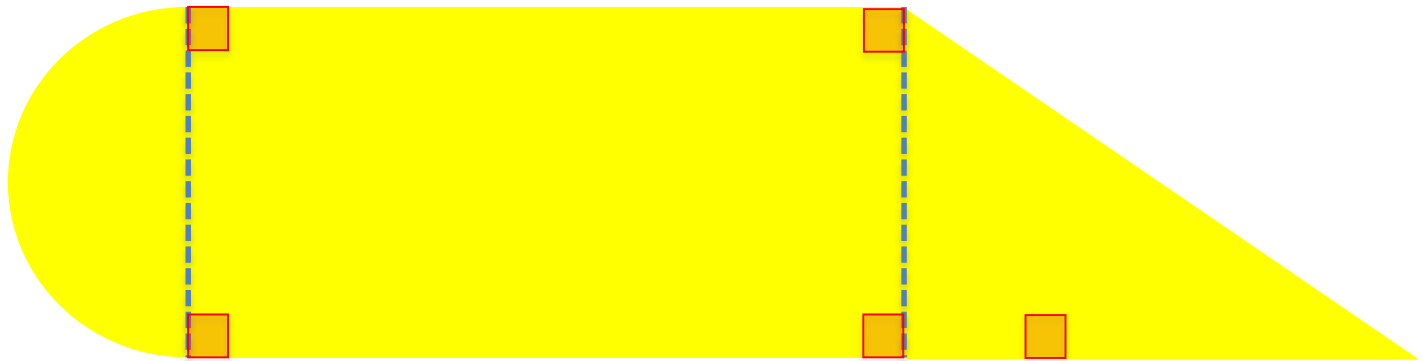


# Perimeter of Composite Figures

## 8.2

# Composite Figure:

a figure that is made by combining triangles, quadrilaterals, semi-circles and other two-dimensional figures.



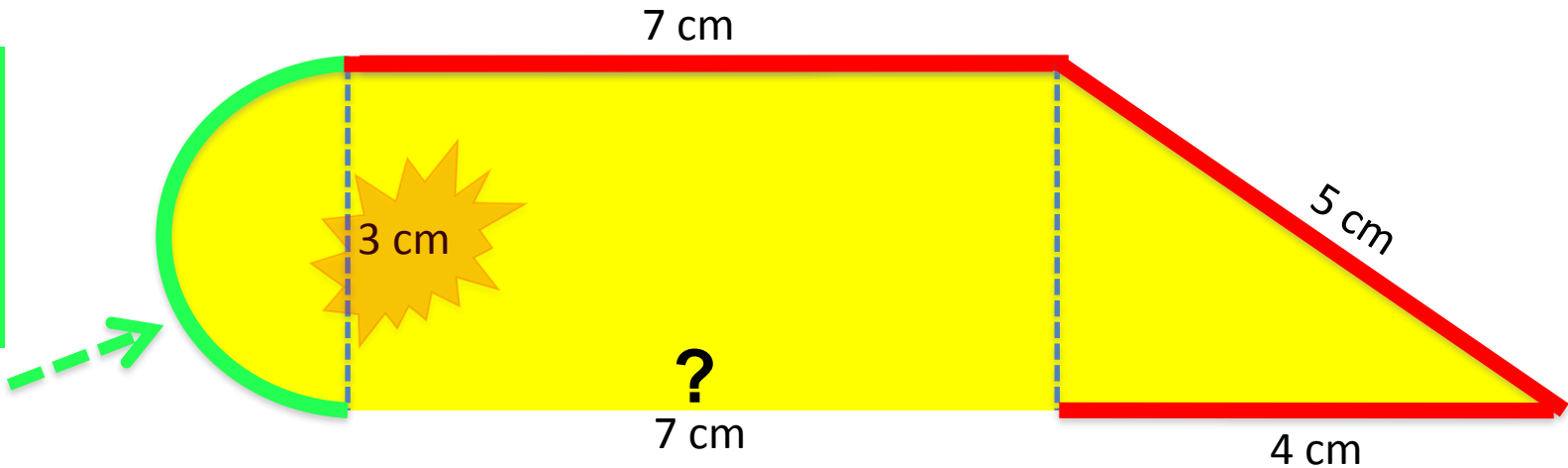
# Perimeter:

Is the distance around a figure

$$\frac{\pi d}{2}$$

$$\approx \frac{3.14(3)}{2}$$
$$\approx \frac{9.42}{2}$$

$$\approx 4.71$$



$$P = 7 \text{ cm} + 5 \text{ cm} + 4 \text{ cm} + 7 \text{ cm} + 4.71 \text{ cm}$$

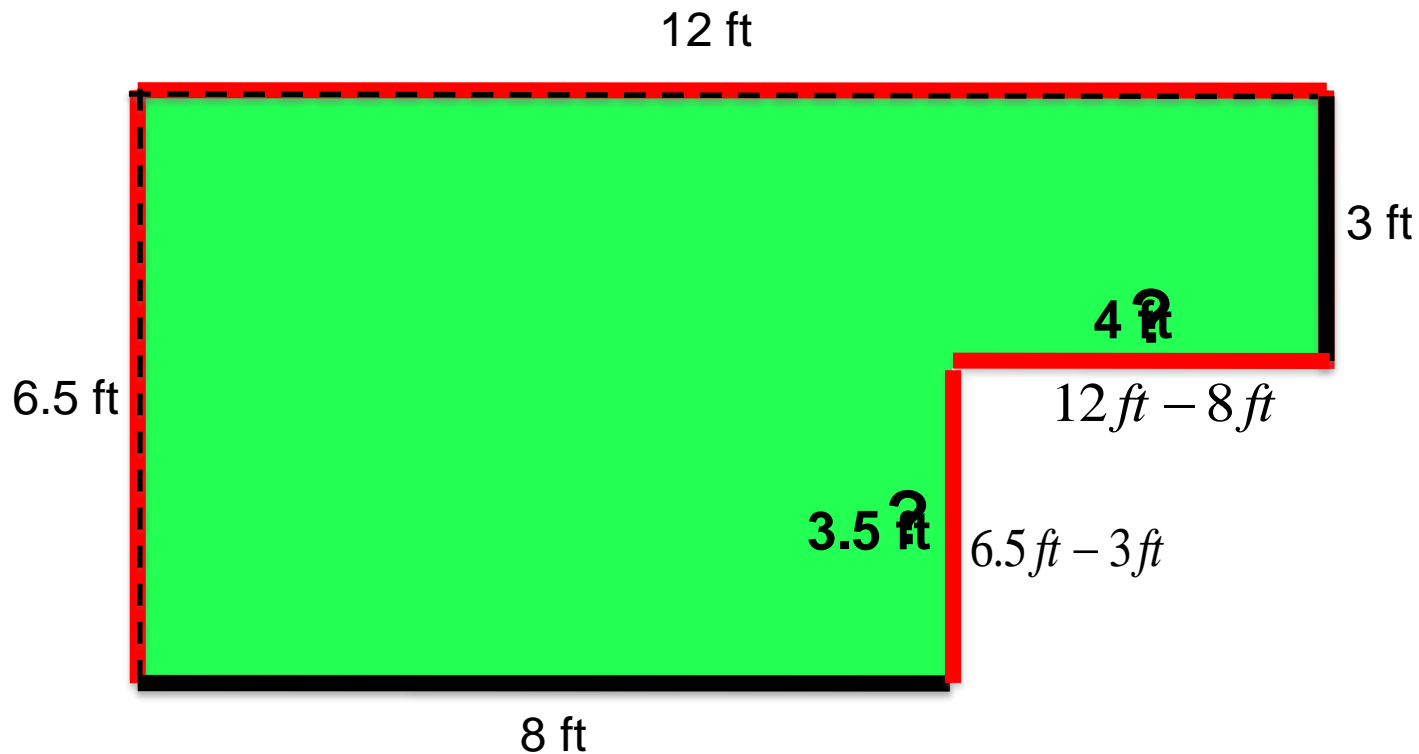
$$P = 27.71 \text{ cm}$$

The perimeter of a circle has a special name,  
It is called the **circumference** and is found using  
either of these formulas:

$$c = 2\pi r$$

$$c = \pi d$$

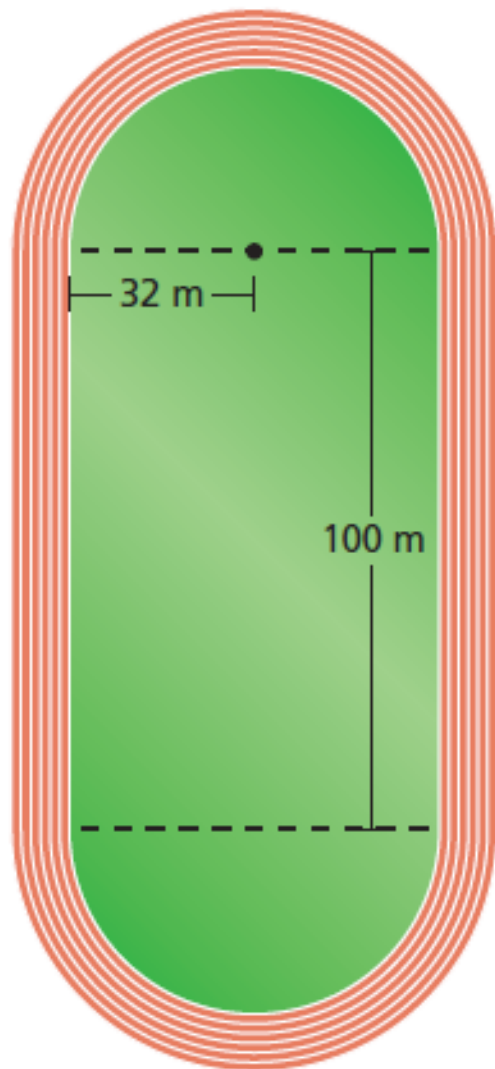
Alice is putting a wallpaper border around her bedroom. She must find the perimeter of her bedroom in order to purchase the correct amount of border.



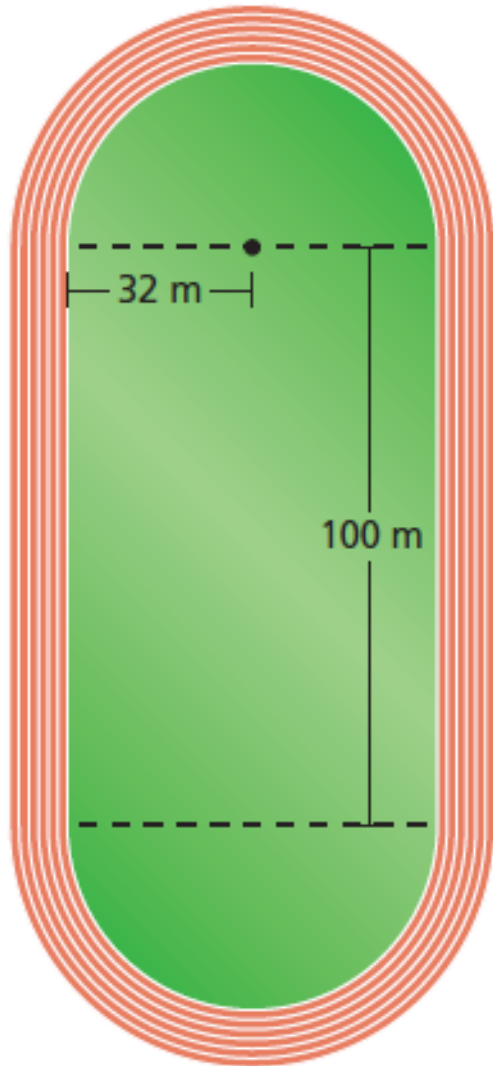
$$P = 8\text{ ft} + 6.5\text{ ft} + 12\text{ ft} + 3\text{ ft} + 4\text{ ft} + 3.5\text{ ft}$$

Alice needs to purchase 37 feet of border.

The running track is made up of a rectangle and two semicircles.  
Find the perimeter.

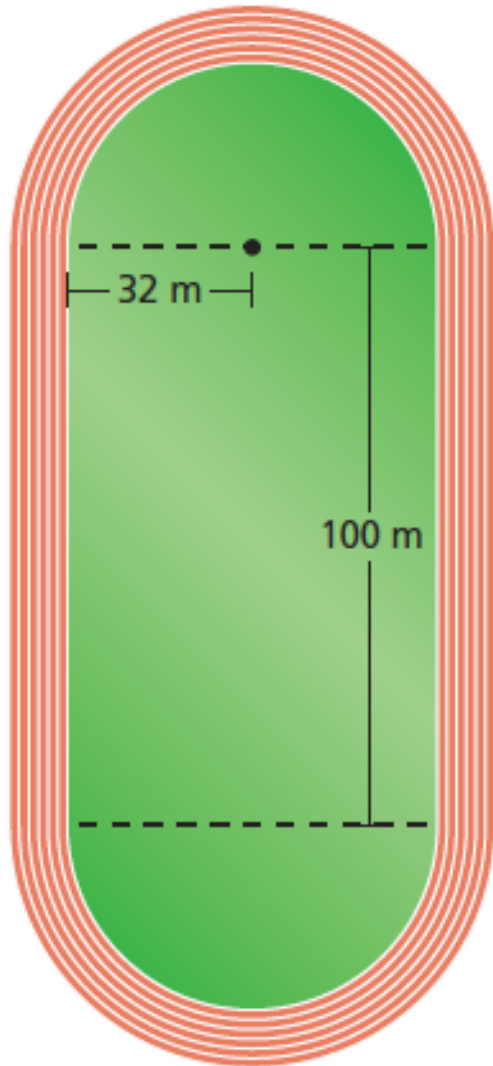


The running track is made up of a rectangle and two semicircles.  
Find the perimeter.



The semicircular ends of the track form a circle with a radius of 32 meters. Find its circumference.

The running track is made up of a rectangle and two semicircles.  
Find the perimeter.

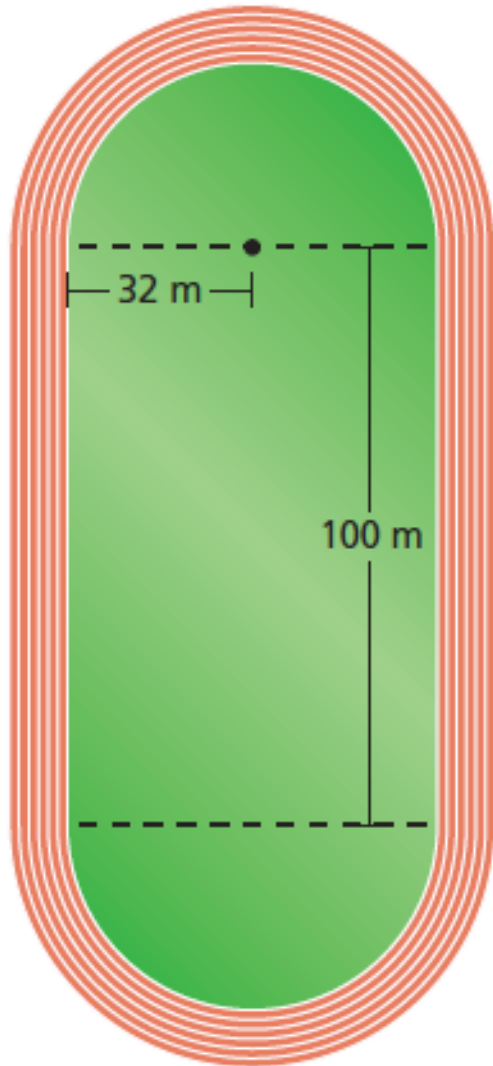


The semicircular ends of the track form a circle with a radius of 32 meters. Find its circumference.

$$C = 2\pi r$$

Write formula for circumference.

The running track is made up of a rectangle and two semicircles.  
Find the perimeter.



The semicircular ends of the track form a circle with a radius of 32 meters. Find its circumference.

$$C = 2\pi r$$

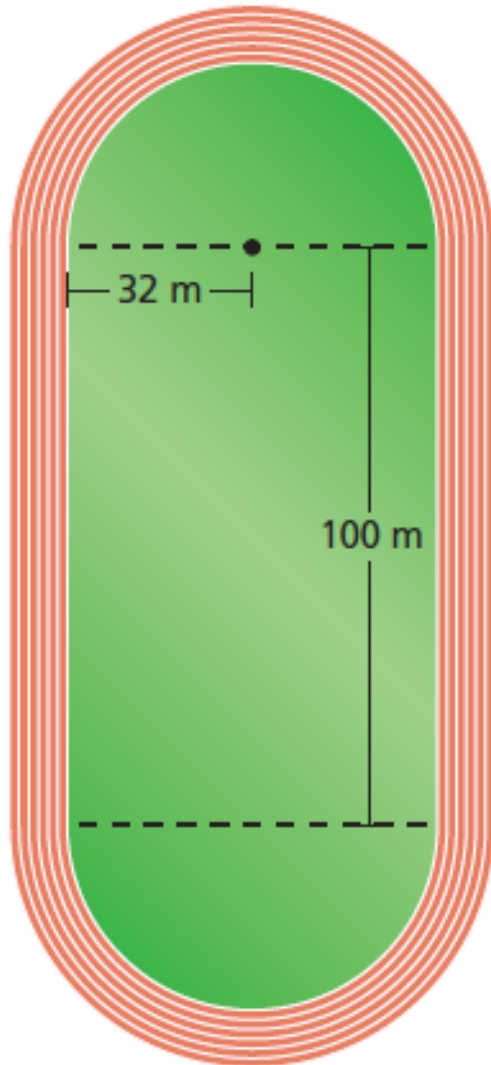
Write formula for circumference.

$$\approx 2 \cdot 3.14 \cdot 32$$

Substitute 3.14 for  $\pi$  and 32 for  $r$ .



The running track is made up of a rectangle and two semicircles.  
Find the perimeter.



The semicircular ends of the track form a circle with a radius of 32 meters. Find its circumference.

$$C = 2\pi r$$

Write formula for circumference.

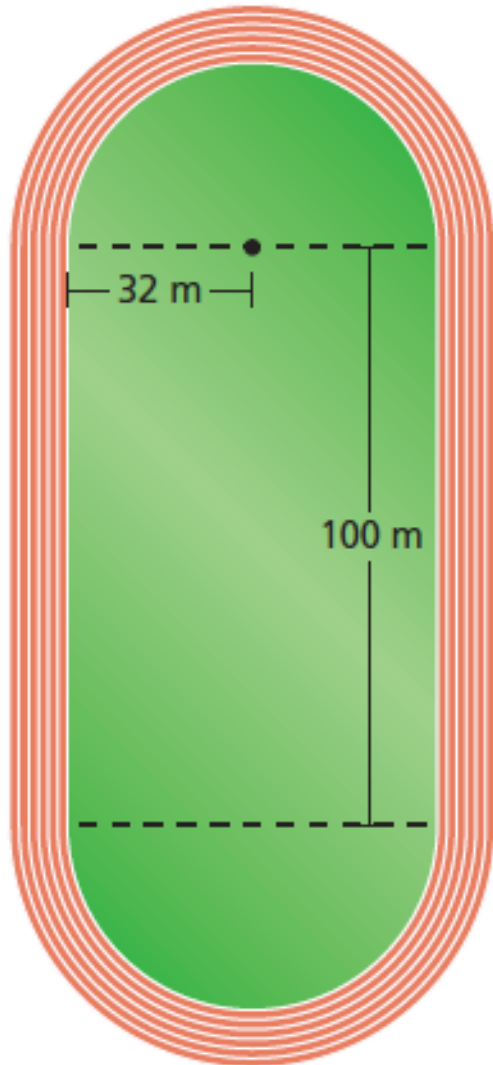
$$\approx 2 \cdot 3.14 \cdot 32$$

Substitute 3.14 for  $\pi$  and 32 for  $r$ .

$$= 200.96$$

Multiply.

The running track is made up of a rectangle and two semicircles.  
Find the perimeter.



The semicircular ends of the track form a circle with a radius of 32 meters. Find its circumference.

$$C = 2\pi r$$

Write formula for circumference.

$$\approx 2 \cdot 3.14 \cdot 32$$

Substitute 3.14 for  $\pi$  and 32 for  $r$ .

$$= 200.96$$

Multiply.

❖ So, the perimeter is about  $100 + 100 + 200.96 = 400.96$  meters.