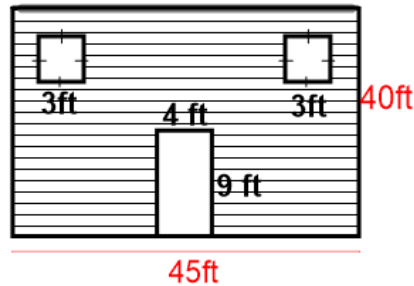


## Pre-Algebra

**Aim:** How can we find area of shaded regions and geometric probabilities?

**Do now:** You want to paint the front of your house, without painting the windows or the door.

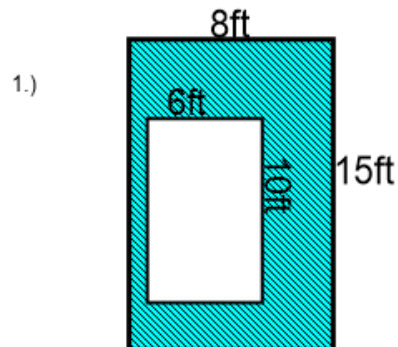
What is the area of the region that you want to paint?



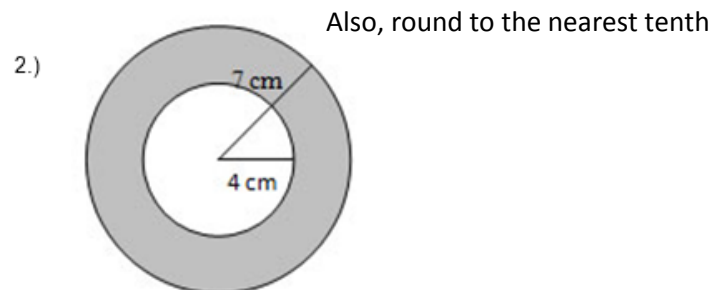
---

To find the Area of a Shaded Region:

Find the area of the shaded region.

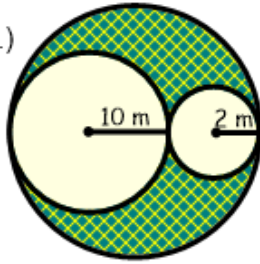


Find the area of the shaded region in terms of  $\pi$ .



Find the area of the shaded region in terms of  $\pi$ .

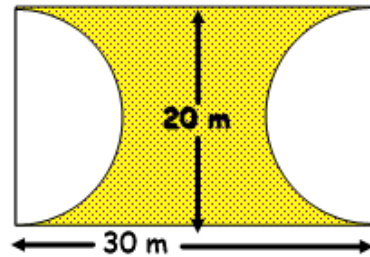
3.)



Also, round to the nearest tenth

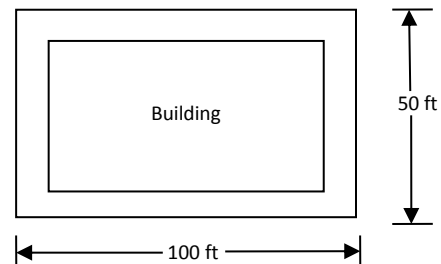
Find the area of the shaded region. Round your answer to the nearest tenth.

4.)

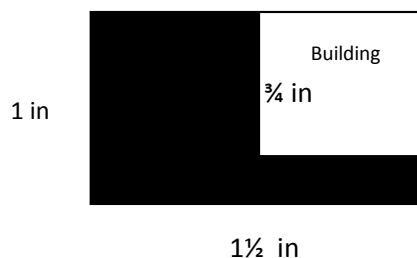


## APPLICATIONS

1. A sidewalk around an office building must be repaved. The building covers a rectangular space 75 feet by 25 feet. If repaving costs \$0.50 per square foot, what is the total cost to repave the sidewalk?



2. The diagram below represents a *scale drawing* of the property where Bob's business is located. Bob's building is in the shape of a square. He needs to purchase rock salt to melt the ice on the parking lot (shaded area). One bag of rock salt covers an area of 1500 square feet. How many bags of rock salt does Bob need to salt the entire parking lot?

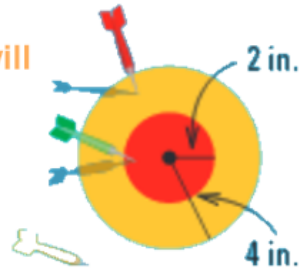


Scale:  $\frac{1}{4}$  inch = 18 ft.

## Geometric Probability

1.) You are playing darts.

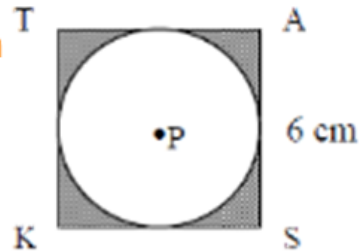
a.) What is the probability that your dart will land in the center circle?



b.) What is the probability that your dart will land on the dartboard, but outside of the center circle?

To find a geometric probability:

2.) Find the probability that a dart thrown randomly would hit the circle.  
(Round to hundredth)



3.) Find the probability that a dart thrown randomly would hit the shaded region.  
(Round to hundredth)