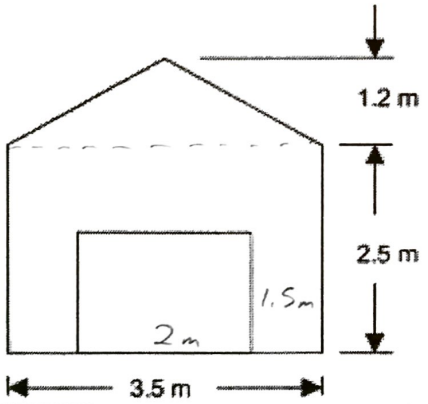
Geometry-Chapter 8-Areas **Name:** Key

Composite Figures and Applications-Homework 2 **Date:**_____ **Period:**_____

1. The front of the garage needs to be painted. The total area except for the door will be painted. The door is 1.5 meters high and 2 meters wide.
   How many square meters of paint will be needed?



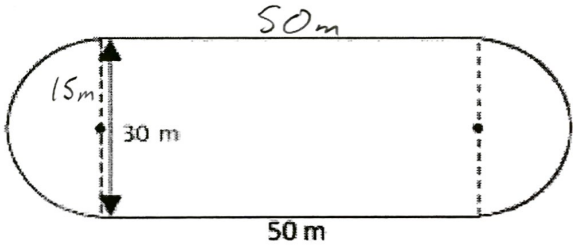
Area of Triangle $= \frac{1}{2}(3.5)(1.2) = 2.1\ m^2$

Area of Large Rectangle $= (3.5)(2.5) = 8.75\ m^2$

Area of Door $= (2)(1.5) = 3\ m^2$

Area to be painted $= 2.1 + 8.75 - 3 = \boxed{7.85\ m^2}$

2. The school's athletic director wants to seed the field and replace the fence. The field is shown at right.
   a. How many meters of fencing will he need to purchase?



$C = 2\pi \cdot 15 = 30\pi$

$30\pi + 50 + 50 \approx \boxed{194.2\ m}$

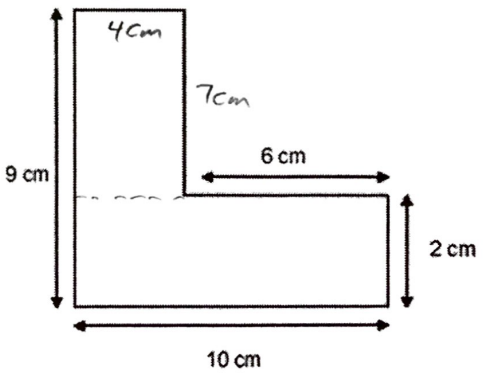
   b. How many square meters will need to be seeded with grass seed?

Area of semicircles: $A = \pi \cdot 15^2 = 225\pi\ m^2$

Area of Rectangle: $A = 50 \cdot 30 = 150\ m^2$

Total Area $= 225\pi + 150 \approx \boxed{856.9\ m^2}$

3. Find the area of the figure.



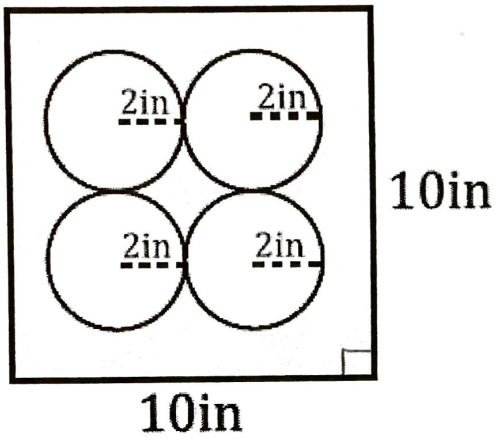
Area of top rectangle $= 4 \cdot 7 = 28\ cm^2$

Area of bottom rectangle $= 10 \cdot 2 = 20\ cm^2$

Total Area $= 28 + 20 = \boxed{48\ cm^2}$

Find the shaded area of the following. Show all your work.

4.

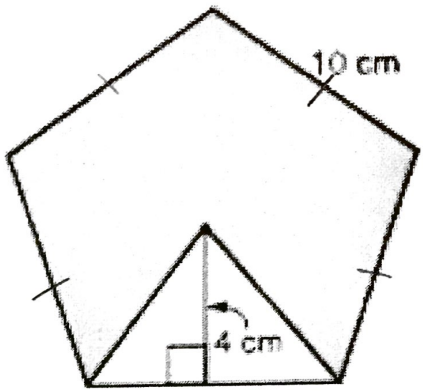


Area of square $= 10^2 = 100\text{ in}^2$

Area of circle $= \pi \cdot 2^2 = 4\pi$

Shaded area $= 100 - 4(4\pi) \approx \boxed{49.7\text{ in}^2}$

5.



$P = 50$

$a = 4$

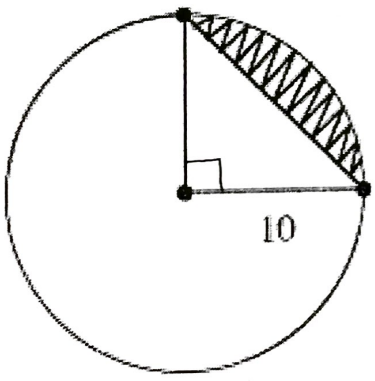
Area of Pentagon $= \frac{1}{2} \cdot 50 \cdot 4$

$= 100\text{ cm}^2$

Area of Triangle $= \frac{1}{2} \cdot 10 \cdot 4 = 20_{\text{cm}^2}$

Shaded Area $= 100 - 20 = \boxed{80\text{ cm}^2}$

6.



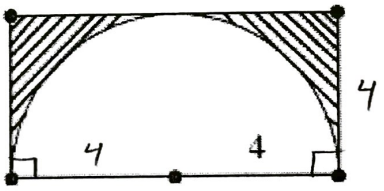
Area of circle $= \pi \cdot 10^2 = 100\pi$

Area of triangle $= \frac{1}{2} \cdot 10 \cdot 10 = 50$

Shaded Area $= \frac{100\pi}{4} - 50 \approx \boxed{28.5\text{ u}^2}$

Quarter-circle

7.



Area of Rectangle $= 8 \cdot 4 = 32$

Area of semicircle $= \frac{1}{2}\pi \cdot 4^2 = 8\pi$

Shaded Area $= 32 - 8\pi \approx \boxed{6.9\text{ u}^2}$