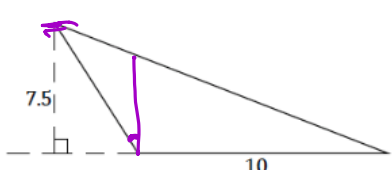
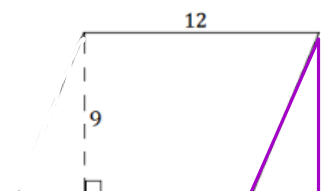
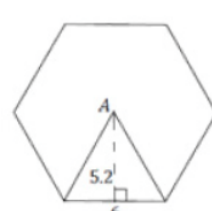
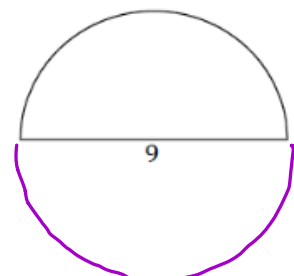


LEARNING OBJECTIVE: We will determine the area of composite figures. (G7M6L20)

ACTIVATING PRIOR KNOWLEDGE

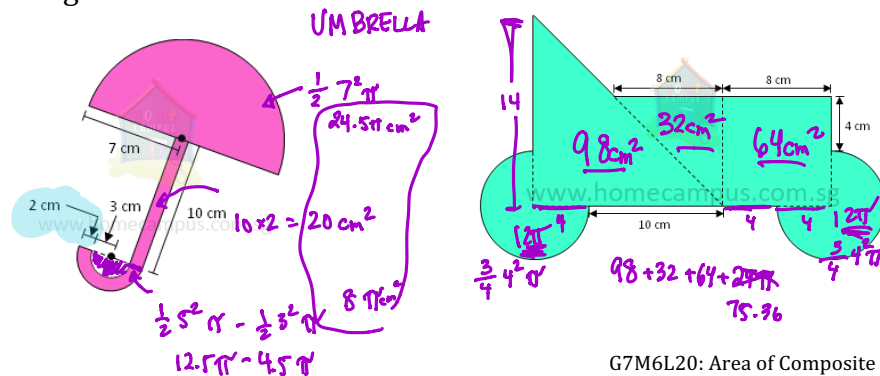
We know how to find the area of many different shapes:

<p>Triangular region:</p> $\text{Area} = \frac{1}{2}(\text{base} \times \text{height})$  <p>$\frac{1}{2}(10 \cdot 7.5)$ 37.5 cm^2</p>	<p>Parallelograms:</p> $\text{Area} = \text{base} \times \text{height}$ <p>$12 \times 9 = 108 \text{ cm}^2$</p> 
<p>Regular Hexagon:</p> $\text{Area} = \frac{1}{2}(\text{base} \times \text{height}) \times \# \text{ of sides}$  <p>$\frac{1}{2}(6 \cdot 5.2) \text{ Area } \Delta$ $3 \cdot 5.2 = 15.6 \times 6 = 93.6 \text{ cm}^2$</p>	<p>Semi-Circle:</p> $\text{Area} = \frac{1}{2} \pi r^2$ <p>radius</p> <p>$r = 4.5$</p>  <p>$\frac{1}{2}(\pi r^2)$ (4.5^2) $10.125(\pi)$ 31.79 cm^2</p>

CONCEPT DEVELOPMENT

Composite Figure: A figure that can be divided into more than one basic figure such as a triangle, rectangle or semicircle.

Example:



GUIDED PRACTICE

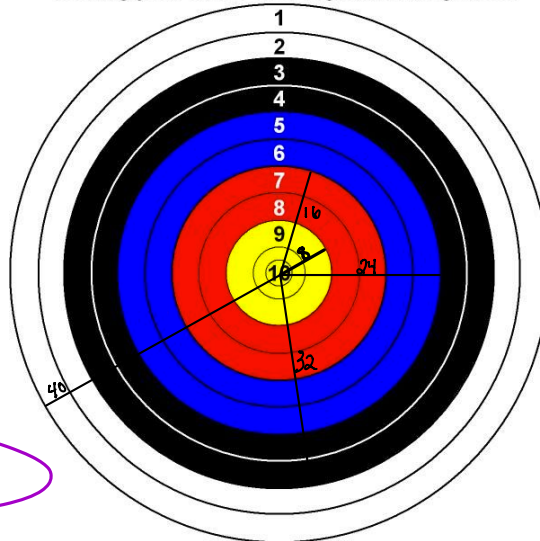
Steps for Solving Problems involving Area of Composite Figures

1. Read the Problem carefully. Underline the question you are trying to answer.
2. Study the picture given, or if needed, draw your own picture to help you solve problem.
3. Find the area in question by either adding or subtracting areas of smaller basic figures.

In archery (shooting bows and arrows), the closer you are to the middle, the more points you score. In standard competition, you can score up to 10 points per arrow with a very accurate shot. To the right, you can see how the scoring works.

- WHITE: 1 or 2 points
- BLACK: 3 or 4 points
- BLUE: 5 or 6 points
- RED: 7 or 8 points
- YELLOW: 9 or 10 points.

Scoring your shots on a regulation target face



Each concentric ring has a radius of 4cm.

Atticus needs to paint 8 of these targets for a competition his archery club is having. Each can of spray paint can cover an area of 1440 cm^2 .

How many cans of each color spray paint does Atticus need?

Yellow: $64\pi = 201 \text{ cm}^2 \times 8 = 1608 \text{ cm}^2 = 2 \text{ spray paint}$

Red: $16^2\pi = 256\pi = 803.84 - 201 = 602.84 \text{ cm}^2 \times 8 = 4822 = 4 \text{ spray paint}$

Blue: $24^2\pi - 256\pi = 576\pi - 256\pi = 320\pi \times 8 = 2560\pi = 8038.4 = 6 \text{ cans}$

Black: $32^2\pi - 24^2\pi = 1024\pi - 576\pi = 448\pi = 1406 \text{ cm}^2 \times 8 = 11,253.6 = 8 \text{ cans}$

cm	area
1	1440 cm^2
2	2880 cm^2
4	5760 cm^2

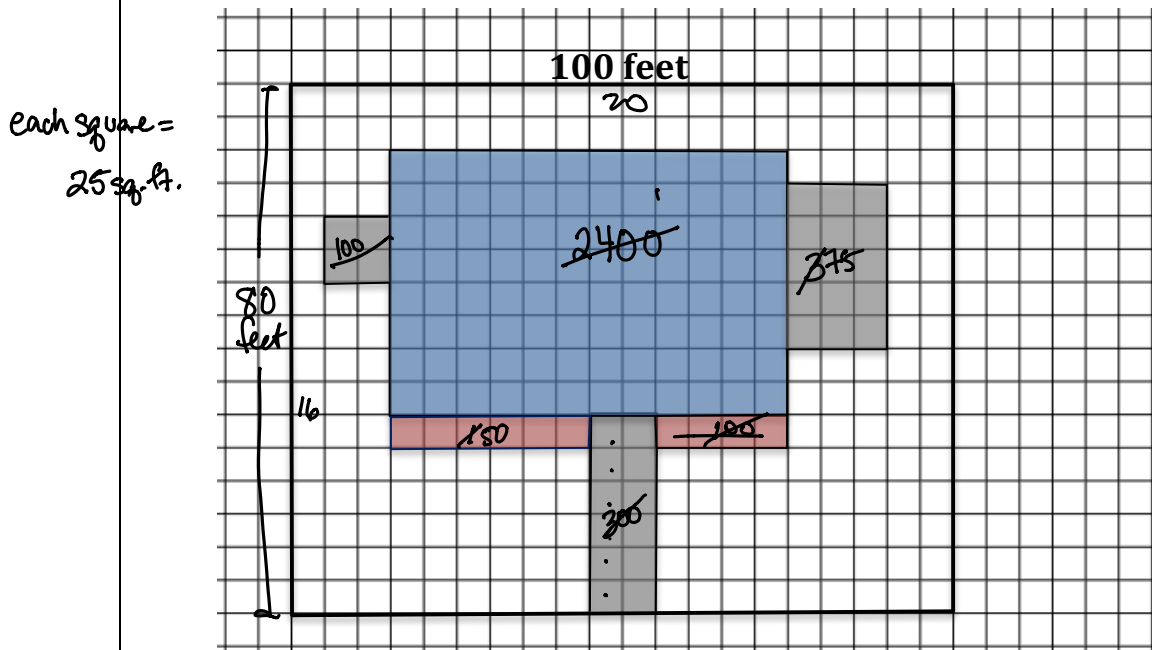
White: $40^2\pi - 32^2\pi$

$1600\pi - 1024\pi = 576\pi = 1808.64 = 14,769.12$

11 cans

A landscape company wants to plant lawn seed. A 20 pound bag of lawn seed will cover up to 420 square feet of grass and costs \$49.98 (plus 8.75% sales tax). A scale drawing of a rectangular yard is given. The length of the longest side is 100 feet. The house, the driveway, sidewalk, garden area and utility pad are shaded. The unshaded area has been prepared for planting grass.

How many 20 lb. bags of lawn seed should be ordered and what is the cost?



$$\text{WHOLE LOT} = 80 \times 100 = \underline{\underline{8000 \text{ sq. ft.}}}$$

$$\text{NOT LAWN} = \underline{\underline{3425 \text{ sq. ft.}}}$$

$$\text{LAWN} = 4,575 \text{ sq. ft.}$$

$$4575 \div 420 = 10.89... \quad 11 \text{ bags}$$

$$11 \times 49.98 = 549.78 \times 1.0875 = 597.89$$

Name: _____

Math 7.1

Mr. Rogove

Date: _____

INDEPENDENT PRACTICE

Hand out problem set form module 6, lesson 20-complete problem 1 and 4.

CLOSURE

NOTES