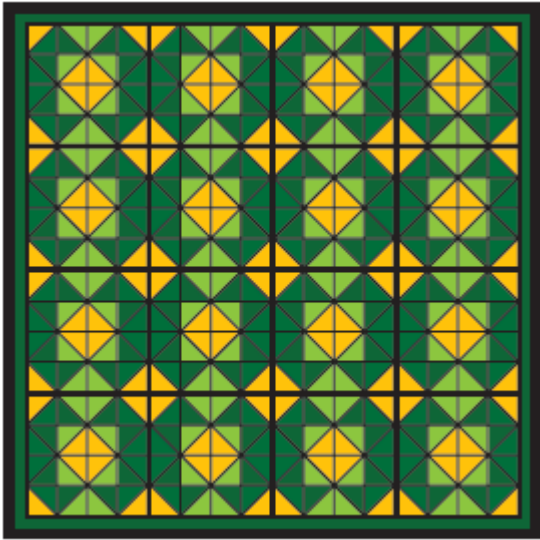


## TOPIC 11-3: AREA OF COMPOSITE FIGURES

### What is a Composite Figure?



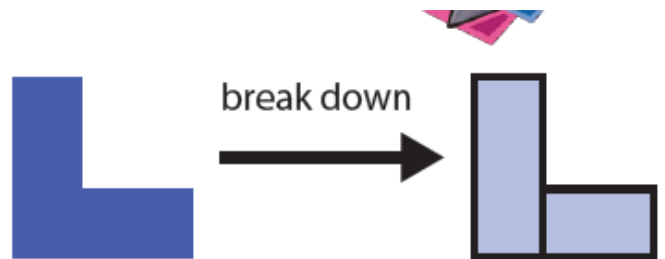
**1. Quilting**

**2. Origami**

**3. Building  
Design/  
Architecture**

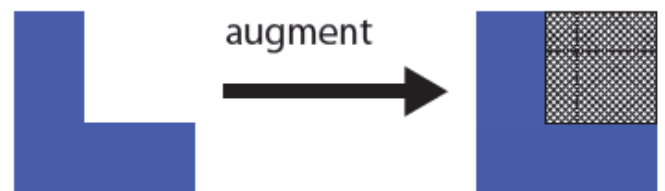
#### Breaking down a Drawing

Learning how to break a complex task down into simpler components is a skill that can transfer to any complicated problem. In geometry it is often necessary to break apart a drawing into basic shapes so that the **area** or **perimeter** can be calculated. At right is a geometric object that can be divided into two small rectangles. You can think of the figure as being *composed* of two rectangular shapes; therefore it is a **composite figure**.



#### Augmenting a Drawing

The same figure can also be **augmented** into one large rectangle.



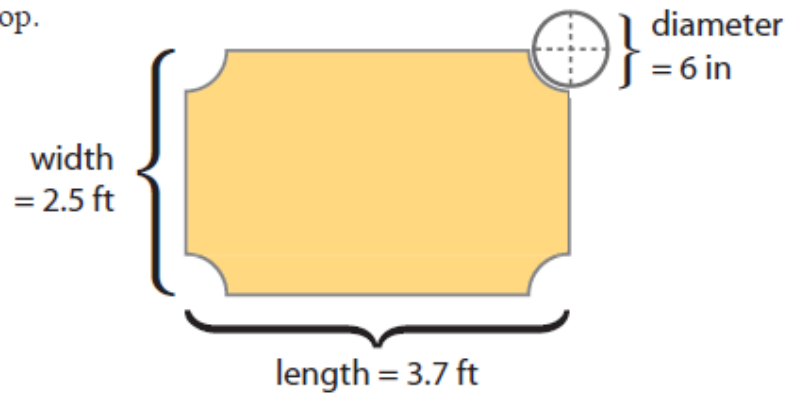
#### Calculations with Composite Figures

To calculate the area, we can either add the two smaller areas created by breaking down the drawing or subtract the hash marked area from the larger augmented rectangle area.

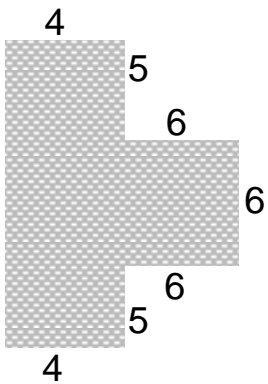
Find the approximate area of the following table top.

**REASONING**

The figure is a rectangle with four decorative cutouts that are each  $\frac{1}{4}$  of a circle. Find the area of the rectangular table and then subtract the cutout sections ( $4 \times \frac{1}{4}$  of a circle or one whole circle).

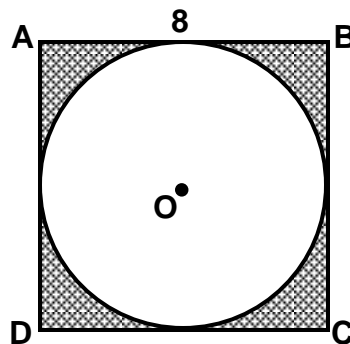


**EXAMPLE 1:** Find the area of the figure below.



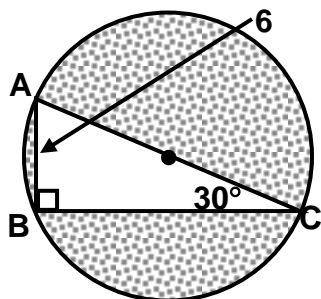
A = \_\_\_\_\_

**EXAMPLE 2:** Find the area of the shaded region to the nearest tenth.



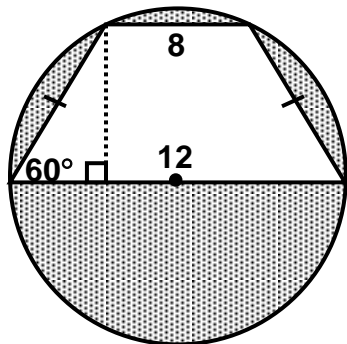
A = \_\_\_\_\_

**EXAMPLE 3:** Find the area of the shaded region to the nearest hundredth.

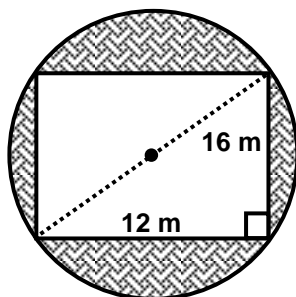


A = \_\_\_\_\_

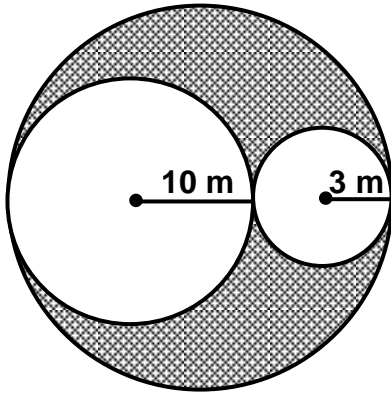
**EXAMPLE 4:** How would you find the area of the shaded region below? (Just list the process for this one...)



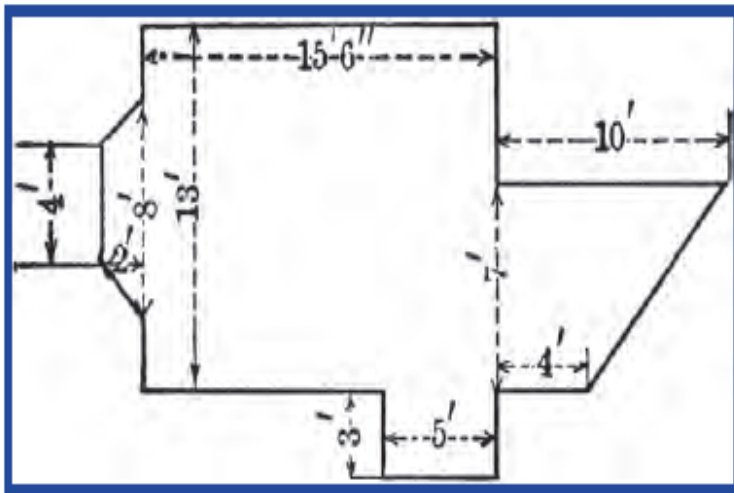
**Example 5:** How would you find the area of the shaded region below? (Just list the process for this one...)



**EXAMPLE 6:** Find the area of the shaded region below. Round your answer to the nearest tenth.



A = \_\_\_\_\_



Floorplans provide a common example of composite figures. When you know the critical measurements of a room, space, or even an entire house, determining the total area is simply a matter of calculating individual areas and adding them together.

**What are the basic shapes to look for when making a design? What else determines the shapes that will be used?**

*\*\*Introduce Composite Figure Activity*