

**13-2****Real-Life Career Activity*****Jewelry Designer***

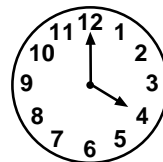
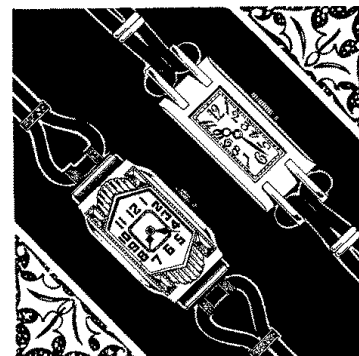
Jewelry designers are often commercial artists who create jewelry. Before they become jewelry designers, these artists study drawing and sculpture and learn about different materials and techniques.

Some jewelry designers specialize in designing watches. The hours on the face of a watch must be exact distances apart. Designers can use angle measures to make sure that the design of a watch face is accurate. There are 12 hours on a circular watch face, and a circle contains  $360^\circ$ , so each hour contains  $\frac{360^\circ}{12} = 30^\circ$ .

When a watch designer draws a sample watch face, the designer makes sure that there are  $30^\circ$  between each hour.

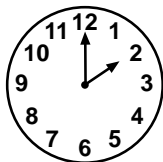
Suppose the designer wants to show how the watch will look when displaying 4 o'clock. How can the designer use angle measures to draw this?

At 4 o'clock, the minute hand is on 12 and the hour hand is on 4. There are four hours between 12 and 4, so there are  $120^\circ$  between the two hands. The designer can use a protractor and straightedge to draw an angle that measures  $120^\circ$ .

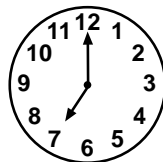


***Calculate the angle measure between the two hands of each watch shown below. (There are two possible answers for Exercises 1 and 2.)***

1.



2.

***Solve.***

3. The measure of the angle between the hour and minute hands is  $180^\circ$ .  
What hour does the watch show?