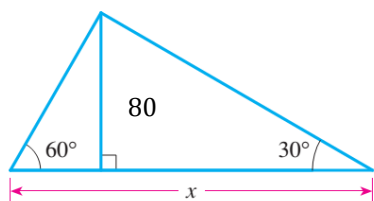


1. Find the degree measure of an angle in standard position determined by the rotation of the initial ray through one and two-thirds of a clockwise revolution.
2. Write a formula for the measures of all angles coterminal with the given angle. Then use the formula to find two angles, one positive and one negative, that are coterminal with the given angle.  $\frac{5\pi}{7}$
3. Find a first-quadrant angle  $\theta$ , for which an angle four times as large as  $\theta$  will be in the given quadrant: Quadrant 3
4. If  $\sin \theta = \frac{5}{6}$ , and  $\cos \theta < 0$  find the other five trig functions.

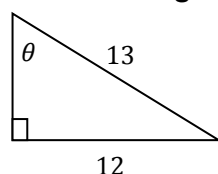
**Find the exact value for  $x$  and  $y$ .**

5.



**Determine the measurements for angle  $\theta$  for each of the following triangles. Round to the nearest hundredth of a degree.**

6.



**Draw a picture for each! Round all answers to the nearest thousandth.**

7. An airplane is at an elevation of 35,000 ft when it begins its approach to an airport. Its angle of descent is  $6^\circ$ . What is the approximate air distance between the plane and the airport?
8. An engineer builds a 75-foot vertical cellular phone tower. Find the angle of elevation to the top of the tower from a point on level ground 95 feet from its base.
9. Points  $A$  and  $B$  (on the same side of a tower) are 12 m apart. The angles of elevation of the top of a tower are  $35^\circ$  and  $45^\circ$  respectively. Find the tower's height.

16.  $\frac{\pi}{6}$       17.  $-\frac{1}{2}$       18. *Undefined*      19.  $-\frac{\sqrt{3}}{3}$       20. *Yes, (see work)*