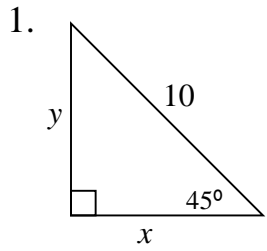
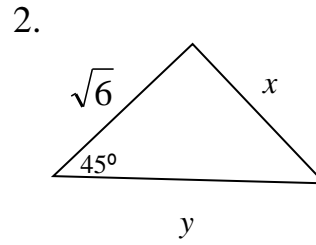


ICM – Basic Trigonometry Review

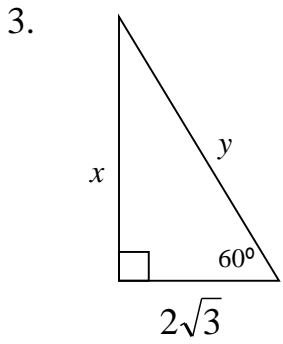
Find the value of each variable. Write your answer in simplest radical form.



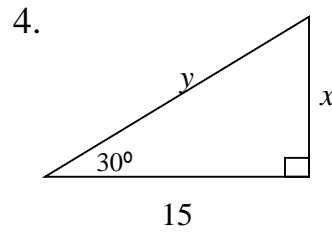
$x = \underline{\hspace{2cm}}$   $y = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$   $y = \underline{\hspace{2cm}}$

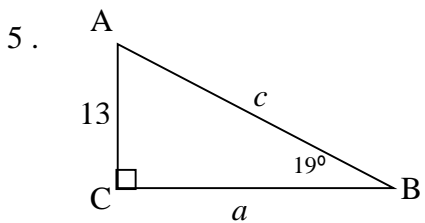


$x = \underline{\hspace{2cm}}$   $y = \underline{\hspace{2cm}}$

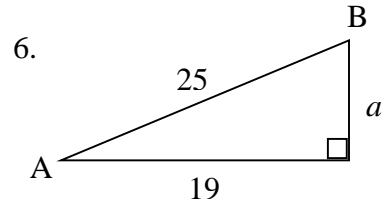


$x = \underline{\hspace{2cm}}$   $y = \underline{\hspace{2cm}}$

Solve each right triangle. Round to the nearest tenth.



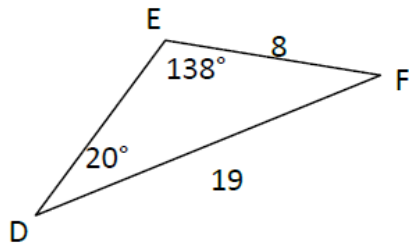
$A = \underline{\hspace{2cm}}$   $a = \underline{\hspace{2cm}}$   $c = \underline{\hspace{2cm}}$



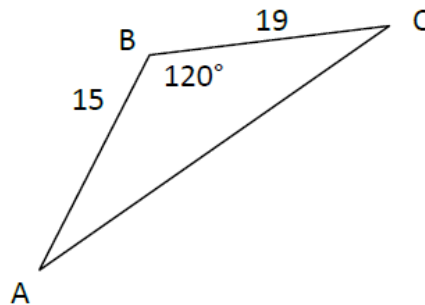
$A = \underline{\hspace{2cm}}$   $B = \underline{\hspace{2cm}}$   $a = \underline{\hspace{2cm}}$

**Use the Law of Sines and Law of Cosines to find missing dimensions.**

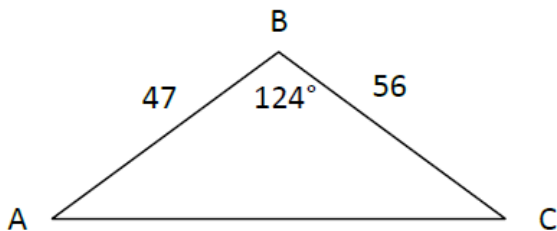
7. Find the missing dimensions of the triangle below. Round your answers to the nearest whole number.



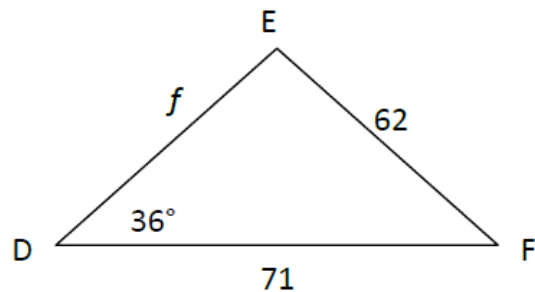
8. Find the  $m\angle C$  to the nearest whole degree.



9. Find the missing dimensions of the triangle below. Round your answers to the nearest whole number.



10. Find the  $f$  to the nearest whole number.



**Draw a diagram and use trig as appropriate (right triangle trig, law of sines, or law of cosines) to solve. Show work!**

**11.** Flying at an altitude of 9 kilometers, an airplane starts to descend when its ground distance from the landing field is 175 kilometers. To the nearest tenth, what is the angle of depression for this portion of the flight?

**12.** A person standing 30 ft from a flagpole can see the top of the pole at a  $35^\circ$  angle of elevation. The person's eye level is 5 ft from the ground. Find the height of the flagpole to the nearest foot.

13. Carol is in the Skydeck of the Sears Tower overlooking Lake Michigan. She sights two sailboats going due east from the tower. The angles of depression to the two boats are  $42^\circ$  and  $29^\circ$ . If the Skydeck is 1335 feet high, how far apart are the boats?

14. The distances from a boat to two seagulls on the shore are 100m and 80m respectively. If the angle between the two lines of sight is  $55^\circ$ , how far would one seagull have to walk to meet the other seagull?

15. Two trains leave from the same point and travel along straight tracks that differ in direction by  $65^\circ$ . If their speeds are 100mph and 80mph respectively, approximate how far apart they will be after 30 minutes.

Find each exact value.

16.  $\cos \frac{3\pi}{2}$

17.  $\tan \frac{11\pi}{3}$

18.  $\csc \pi$

19.  $\cot -135^\circ$

20.  $\sin \frac{31\pi}{6}$

21.  $\sec \left( -\frac{5\pi}{4} \right)$

22. Find all values of  $x$ ,  $0^\circ \leq \theta \leq 360^\circ$ , that satisfy the equation  $2\cos x = 2$ .

23. Find all values of  $x$ ,  $0^\circ \leq \theta \leq 360^\circ$ , that satisfy the equation  $\tan x - \sqrt{3} = 0$ .