

Name: _____ Period: _____

Practice 8-1: Right Triangle Trigonometry and Special Right Triangles

Convert each degree measure into radians.

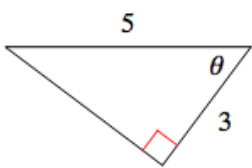
1. -90° 2. -60° 3. 120° 4. 20° 5. 165° 6. -280°

Convert each radian measure into degrees.

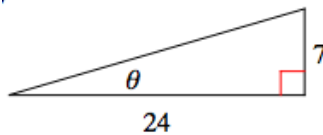
7. $-\frac{\pi}{6}$ 8. $\frac{\pi}{6}$ 9. $-\frac{25\pi}{18}$ 10. $\frac{2\pi}{3}$ 11. $\frac{4\pi}{9}$ 12. $\frac{10\pi}{3}$

Find the value of the trig function indicated.

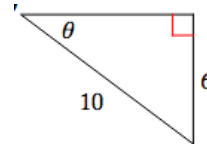
13. $\sec \theta$



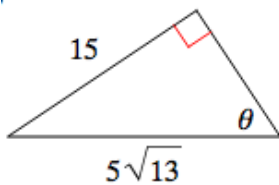
14. $\csc \theta$



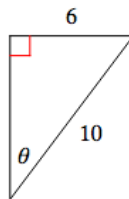
15. $\tan \theta$



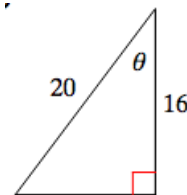
16. $\cot \theta$



17. $\sin \theta$

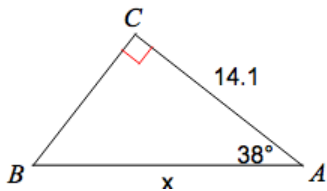


18. $\cos \theta$

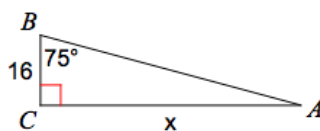


Find the measure of each side indicated. Round to the nearest tenth.

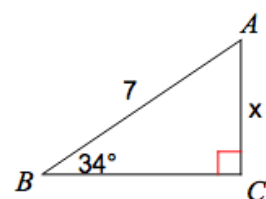
19.



20.

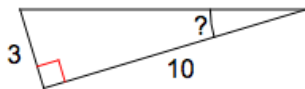


21.

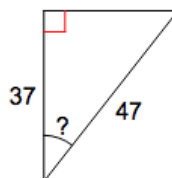


Find the measure of each angle indicated. Round to the nearest tenth.

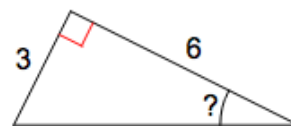
22.



23.



24.

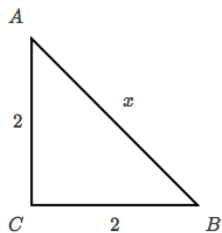


Solve the following application problems.

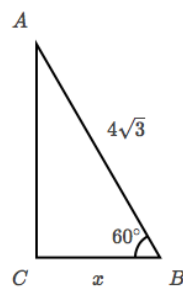
25. A ladder is resting against a tree and the foot of the ladder is $1m$ from the base of the tree and form an angle of 64° with the ground. How far up the tree does the ladder reach, to the nearest tenth of a meter?
26. If you were in a hot air balloon $500m$ above Utah Lake, at what angle of depression would you look at a boat on the lake that is $800m$ horizontally away from the balloon?
27. Kendra walked diagonally across a rectangular field that measures $45m$ by $65m$. To the nearest degree, at what angle, with respect to the longer side, did she walk?
28. Two students want to determine the heights of two buildings. They both stand on the roof of the shorter building. The students measure the angle of elevation to be 44° to the top of the taller building. From the same position, they measure the angle of depression to be 53° to the base of the taller building. Then the students measure the horizontal distance between the two buildings and find that they are $18.0m$ apart. How tall is each building, to the nearest tenth of a meter?

Solve for the missing information using special right triangles.

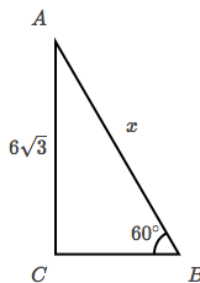
29.



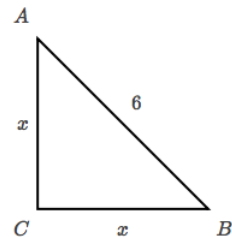
30.



31.



32.



REVIEW!

33. You invested \$1000 in a savings account at the end of the 6th grade. The account pays 5% annual interest. How much money will be in the account after six years?
34. Suppose you invest \$600 at an annual interest rate of 7.9% compounded continuously. How much will you have in the account after 13 years?