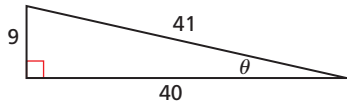
READY TO GO ON?

Quiz for Lessons 13-1 Through 13-4

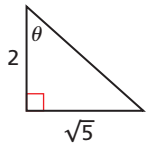
13-1 Right-Angle Trigonometry

Find the values of the six trigonometric functions for θ.

1.

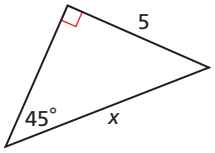


2.

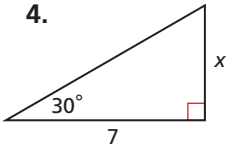


Use a trigonometric function to find the value of x.

3.



4.



5. A biologist's eye level is 5.5 ft above the ground. She measures the angle of elevation to an eagle's nest on a cliff to be 66° when she stands 50 ft from the cliff's base. To the nearest foot, what is the height of the eagle's nest?

13-2 Angles of Rotation

Draw an angle with the given measure in standard position.

6. $-270°$

7. $405°$

Point P is a point on the terminal side of θ in standard position. Find the exact value of the six trigonometric functions for θ.

8. $P(12, -5)$

9. $P(-2, 7)$

13-3 The Unit Circle

Convert each measure from degrees to radians or from radians to degrees.

10. $-120°$

11. $63°$

12. $\frac{3\pi}{8}$

13. $-\frac{10\pi}{3}$

Use the unit circle to find the exact value of each trigonometric function.

14. $\cos 210°$

15. $\tan 120°$

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

17. $\tan \frac{5\pi}{4}$

18. A bicycle tire rotates through an angle of 3.4π radians in 1 second. If the radius of the tire is 0.34 m, what is the bicycle's speed in meters per second? Round to the nearest tenth.

13-4 Inverses of Trigonometric Functions

Evaluate each inverse trigonometric function. Give your answer in both radians and degrees.

19. $\text{Sin}^{-1} \frac{\sqrt{3}}{2}$

20. $\text{Tan}^{-1}\left(-\frac{\sqrt{3}}{3}\right)$

21. A driver uses a ramp when unloading supplies from his delivery truck. The ramp is 10 feet long, and the bed of the truck is 4 feet off the ground. To the nearest degree, what angle does the ramp make with the ground?