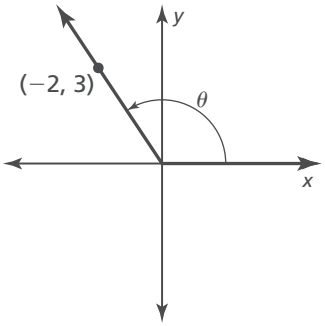
Name _____ Date _____

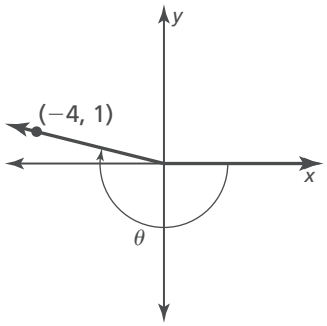
8.3 Practice A

In Exercises 1–4, evaluate the six trigonometric functions of θ.

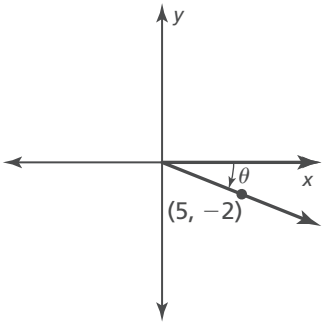
1.



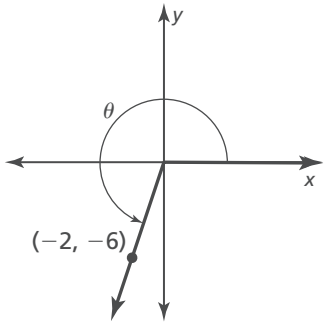
2.



3.



4.



In Exercises 5–7, use the unit circle to evaluate the six trigonometric functions of θ.

5. $180°$ **6.** $450°$ **7.** $\frac{3\pi}{2}$

In Exercises 8–13, find the angle's reference angle.

8. $-170°$ **9.** $130°$ **10.** $220°$

11. $\frac{17\pi}{6}$ **12.** $\frac{15\pi}{4}$ **13.** $-\frac{7\pi}{3}$

In Exercises 14–16, evaluate the function without using a calculator.

14. $\csc 150°$ **15.** $\tan \frac{5\pi}{4}$ **16.** $\cos(-210°)$

17. The horizontal distance d (in feet) traveled by a projectile launched at an angle θ and with an initial speed v (in feet per second) is given by $d = \frac{v^2}{32} \sin 2\theta$. Estimate the horizontal distance (in feet) traveled by a football that is kicked at an angle of $60°$ with initial speed of $v = 80$ feet per second. What is the horizontal distance in yards? Round your answers to the nearest tenth.