7-3 Additional Practice

Trigonometric Functions and Real Numbers

Find the sine and cosine of each angle.

1. 90°

2. 135°

3. 270°

4. $\frac{\pi}{6}$

5. $\frac{3\pi}{4}$

6. $\frac{5\pi}{6}$

Find the coordinate of the terminal point for each angle.

7. $\frac{2\pi}{3}$

8. $\frac{\pi}{2}$

9. $\frac{5\pi}{3}$

10. 315°

11. 210°

12. 240°

Solve.

13. What is the $\sin \theta$ if $\cos \theta = \frac{-6}{10}$ and θ is in Quadrant II?

14. What is the $\cos \theta$ if the $\sin \theta = \frac{-16}{20}$ and θ is in Quadrant III?

What is the tangent of each angle?

15. $\frac{11\pi}{6}$

16. $\frac{\pi}{4}$

17. $\frac{5\pi}{3}$

18. −750°

19. 30°

20. 135°

Find the secant, cosecant, and cotangent for each angle.

21. $\frac{\pi}{4}$

22. $\frac{\pi}{6}$

23. $\frac{3\pi}{4}$

24. 330°

25. 120°

26. 240°

27. Alejandro said the cotangent of 180° is 0. Is he correct? Explain.

28. Alex is standing at the 2 o'clock position on a circle in the center of a soccer field. He passes the ball to a player who is located at the 10 o'clock position. The radii to the positions of the two players forms a central angle of the circle. What are the degree and radian measures of the angle?

7-3 Additional Practice

Trigonometric Functions and Real Numbers

Find the sine and cosine of each angle.

1. $90°$ **1; 0**

2. $135°$ **$\dfrac{\sqrt{2}}{2}$; $-\dfrac{\sqrt{2}}{2}$**

3. $270°$ **-1; 0**

4. $\dfrac{\pi}{6}$ **$\dfrac{1}{2}$; $\dfrac{\sqrt{3}}{2}$**

5. $\dfrac{3\pi}{4}$ **$\dfrac{\sqrt{2}}{2}$; $-\dfrac{\sqrt{2}}{2}$**

6. $\dfrac{5\pi}{6}$ **$\dfrac{1}{2}$; $-\dfrac{\sqrt{3}}{2}$**

Find the coordinate of the terminal point for each angle.

7. $\dfrac{2\pi}{3}$ **$\left(-\dfrac{1}{2}, \dfrac{\sqrt{3}}{2}\right)$**

8. $\dfrac{\pi}{2}$ **(0, 1)**

9. $\dfrac{5\pi}{3}$ **$\left(\dfrac{1}{2}, -\dfrac{\sqrt{3}}{2}\right)$**

10. $315°$ **$\left(\dfrac{\sqrt{2}}{2}, -\dfrac{\sqrt{2}}{2}\right)$**

11. $210°$ **$\left(-\dfrac{\sqrt{3}}{2}, -\dfrac{1}{2}\right)$**

12. $240°$ **$\left(-\dfrac{1}{2}, -\dfrac{\sqrt{3}}{2}\right)$**

Solve.

13. What is the $\sin \theta$ if $\cos \theta = \dfrac{-6}{10}$ and θ is in Quadrant II? **$\dfrac{8}{10}$**

14. What is the $\cos \theta$ if the $\sin \theta = \dfrac{-16}{20}$ and θ is in Quadrant III?

$-\dfrac{12}{20}$

What is the tangent of each angle?

15. $\dfrac{11\pi}{6}$ **$-\dfrac{\sqrt{3}}{3}$**

16. $\dfrac{\pi}{4}$ **1**

17. $\dfrac{5\pi}{3}$ **$-\sqrt{3}$**

18. $-750°$ **$-\dfrac{\sqrt{3}}{3}$**

19. $30°$ **$\dfrac{\sqrt{3}}{3}$**

20. $135°$ **-1**

Find the secant, cosecant, and cotangent for each angle.

21. $\dfrac{\pi}{4}$ **$\sqrt{2}$; $\sqrt{2}$; 1**

22. $\dfrac{\pi}{6}$ **$\dfrac{2\sqrt{3}}{3}$; 2; $\sqrt{3}$**

23. $\dfrac{3\pi}{4}$ **$-\sqrt{2}$; $\sqrt{2}$; -1**

24. $330°$ **$\dfrac{2\sqrt{3}}{3}$; -2; $-\sqrt{3}$**

25. $120°$ **-2; $\dfrac{2\sqrt{3}}{3}$; $-\dfrac{\sqrt{3}}{3}$**

26. $240°$ **-2; $-\dfrac{2\sqrt{3}}{3}$; $\dfrac{\sqrt{3}}{3}$**

27. Alejandro said the cotangent of $180°$ is 0. Is he correct? Explain.

Alejandro is incorrect. Sample answer: The cot $180°$ is undefined. cot $180° = \dfrac{\cos 180°}{\sin 180°} = -\dfrac{1}{0}$.

28. Alex is standing at the 2 o'clock position on a circle in the center of a soccer field. He passes the ball to a player who is located at the 10 o'clock position. The radii to the positions of the two players forms a central angle of the circle. What are the degree and radian measures of the angle? **$120°$; $\dfrac{2\pi}{3}$**