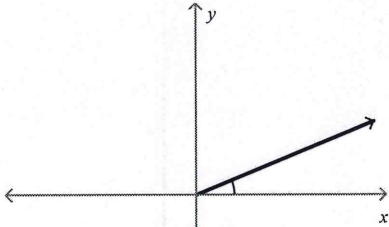
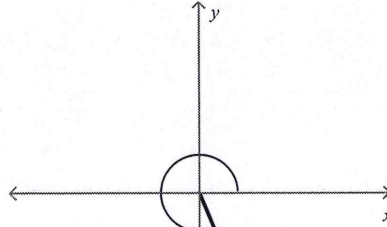


4. Which graph represents an angle in standard position with a measure of $\frac{5}{8}\pi$ rad?

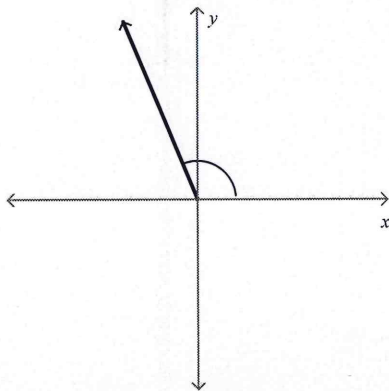
A.



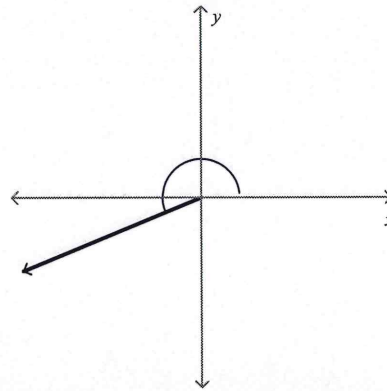
C.



B.



D.



5. John cuts a slice from a circular ice cream cake with a diameter of 24 cm. His slice is in the shape of a sector with an arc length of 7 cm. What is the measure of the central angle of the slice, in radians? Round your answer to two decimal places, if necessary.

A. 1.71 rad

C. 0.29 rad

B. 3.43 rad

D. 0.58 rad

6. If the angle θ is 1600° in standard position, in which quadrant does it terminate?

- A. quadrant III
B. quadrant IV
C. quadrant II
D. quadrant I

7. Identify the point on the unit circle corresponding to an angle of 300° in standard position.

- A. $(-\sqrt{3}, -\frac{\sqrt{3}}{2})$
B. $(-\frac{\sqrt{3}}{2}, \frac{1}{2})$
C. $(\frac{1}{2}, -\frac{\sqrt{3}}{2})$
D. $(\frac{1}{2}, -\sqrt{3})$

8. Identify the point on the unit circle corresponding to an angle of $\frac{4\pi}{3}$ radians in standard position.

- A. $(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$
B. $(\sqrt{3}, -\frac{\sqrt{3}}{2})$
C. $(-\frac{1}{2}, -\frac{\sqrt{3}}{2})$
D. $(-\frac{1}{2}, \sqrt{3})$

9. Which point on the unit circle corresponds to $\tan \theta = \sqrt{3}$?

A. $(-\frac{1}{2}, \sqrt{3})$

C. $(\sqrt{3}, -\frac{\sqrt{3}}{2})$

B. $(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$

D. $(-\frac{1}{2}, -\frac{\sqrt{3}}{2})$

10. Identify a measure for the central angle θ in the interval $0 \leq \theta < 2\pi$ such that point $(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$ is on the terminal arm.

A. π

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

B. $\frac{\pi}{3}$

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

11. Which is a possible value of θ , to the nearest hundredth of a radian, when $\cos \theta = -0.58$?

A. -2.19

C. 2.19

B. -0.62

D. 0.84

12. Gai got an answer of 3.86 when she was calculating the value of a trigonometric function. Assuming Gai did her calculation correctly, which of the following was she calculating?

A. $\tan \frac{1}{12}\pi$

C. $\csc \frac{1}{12}\pi$

B. $\sec \frac{7}{12}\pi$

D. $\cot \frac{1}{12}\pi$

Short Answer

1. A bicycle tire revolves at 150 rpm (revolutions per minute). What is its angular velocity, in radians per second, rounded to two decimal places?

2. Without using a calculator, determine the exact value of $\sin\left(-\frac{5\pi}{6}\right)$. A diagram of the angle in standard position and its special triangle must be shown.

Name: _____

ID: A

3. Without using a calculator, determine the exact measure for all angles where $\sec \theta = -\frac{2}{\sqrt{3}}$ in the domain $0^\circ \leq \theta \leq 360^\circ$. A diagram of the angles in standard position and their special triangles must be shown.

4. Without using a calculator, determine the exact measure for all angles where $\tan \theta = -\sqrt{3}$ in the domain $-\pi \leq \theta \leq \pi$. A diagram of the angles in standard position and their special triangles must be shown.

5. An angle, θ , is in standard position and in quadrant II. If $\tan \theta = -\frac{2}{3}$, determine the exact value of $\sin \theta$. A diagram of the angle in standard position and its triangle must be shown.

6. The point $P(-3, -6)$ lies on the terminal arm of an angle in standard position. Give one positive and one negative angle, in radians, where neither angles exceeds one full rotation. Give answers to one decimal place.
7. Determine the approximate measure of all angles where $\csc \theta = -2.356$ in the domain $0 \leq \theta \leq 2\pi$. Give answers to one decimal place.
8. Solve the trigonometric equation $5 \csc \theta + 3 = 1 + 4 \csc \theta$ in the domain $0^\circ \leq \theta \leq 360^\circ$. Give solutions as exact values. (2 marks)
9. Solve the trigonometric equation $4 \cos^2 \theta + 1 = 4$ in the domain $0 \leq \theta \leq 2\pi$. Give solutions as exact values. (2 marks)

Name: _____

ID: A

10. Solve the trigonometric equation $\tan^2 \theta - \tan \theta - 2 = 0$ in the domain $0 \leq \theta \leq 2\pi$. Give solutions as exact values where possible. Otherwise, give approximate measures to the nearest tenth. (2 marks)