

## Chapter 4 Review

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### 4.1 Angles and Angle Measure, pages 109–119

1. Convert each degree measure to radian measure and each radian measure to degree measure. Give exact values.

a)  $270^\circ$

b)  $\frac{5\pi}{3}$

c)  $300^\circ$

d)  $-4$

e)  $495^\circ$

f)  $\frac{13\pi}{4}$

2. Identify one positive and one negative angle measure that is coterminal with each angle. Then, write a general expression for all the coterminal angles in each case.

a)  $\frac{11\pi}{6}$

b)  $-375^\circ$

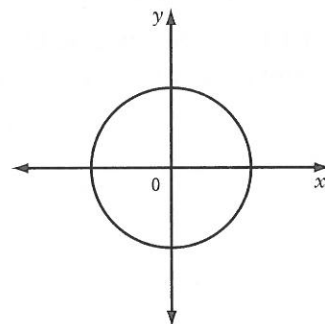
3. Determine the measure of the central angle subtended by each arc to one decimal place.

a) arc length 31.4 cm, radius 5.0 cm, in radians

b) arc length 11.3 m, radius 22.6 m, in degrees

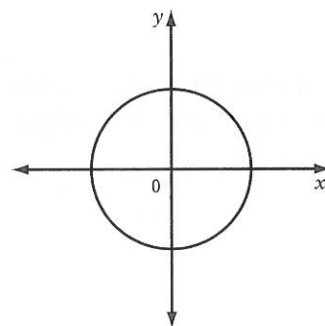
## 4.2 The Unit Circle, pages 120–128

4. Determine the missing coordinate for point  $P\left(x, -\frac{2}{3}\right)$  in quadrant III on the unit circle.

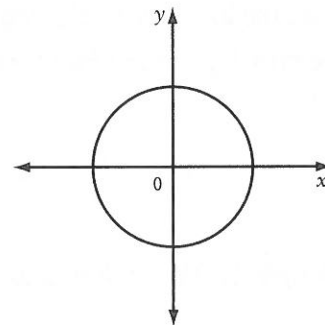


5. Determine the value of angle  $\theta$  in standard position,  $0 \leq \theta < 2\pi$ , given the coordinates of  $P(\theta)$ , the point at which the terminal arm of  $\theta$  intersects the unit circle.

a)  $P\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$        $\theta =$

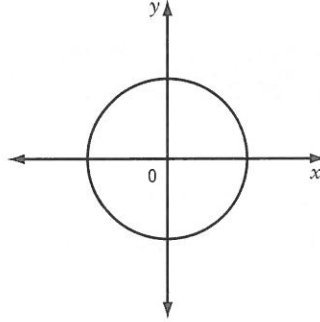


b)  $P\left(\frac{1}{\sqrt{2}}, -\frac{1}{\sqrt{2}}\right)$        $\theta =$



### 4.3 Trigonometric Ratios, pages 129–137

6. Determine the measure of all angles that satisfy  $\sec \theta = 1.788$ ,  $0^\circ \leq \theta < 720^\circ$ . Round your answers to the nearest degree.



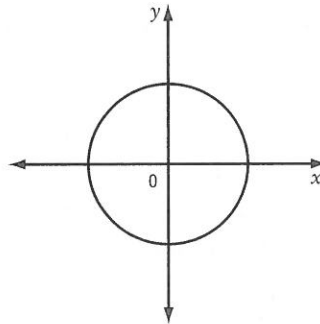
7. Determine the exact value of

a)  $\cot\left(\frac{5\pi}{6}\right)$

b)  $\csc\left(\frac{5\pi}{3}\right)$

### 4.4 Introduction to Trigonometric Equations, pages 138–144

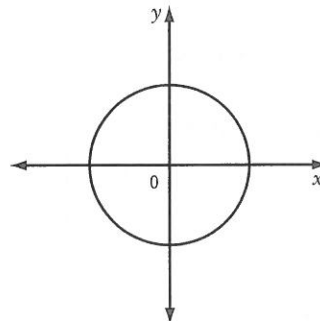
8. Write the general form of the solutions to  $\sec \theta + 10 = 2 - 4 \sec \theta$  (in degrees).



$\theta_1 \approx$  \_\_\_\_\_,  $n \in \mathbb{I}$

$\theta_2 \approx$  \_\_\_\_\_,  $n \in \mathbb{I}$

9. Solve  $2 \sin^2 \theta + \sin \theta = 1$ ,  $0 \leq \theta < 2\pi$ . Give exact solutions.



## Chapter 4 Skills Organizer

Make note of some of the key things you remember about the processes you have learned in this chapter. Use your class notes, textbook, or questions from this workbook to help you choose examples (or create your own).

Process	Example	Things to Remember
Converting angle measures <ul style="list-style-type: none"><li>• from degrees to radians</li><li>• from radian to degrees</li></ul>		
Determining coterminal angles		
Determining the six trigonometric ratios for angles in the unit circle		
Solving trigonometric equations <ul style="list-style-type: none"><li>• for a restricted domain</li><li>• a general solution</li></ul>		