

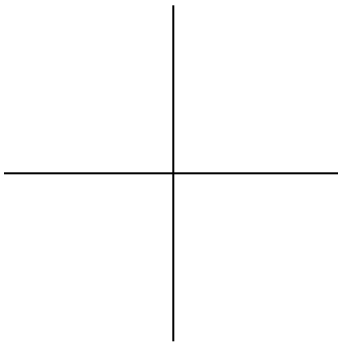
Unit 6

Name: _____ Date: _____ Period: _____

Secondary Math 3 Unit 6 Test Review

Sketch each of the following angles in standard position. State each angle's reference angle, and find a coterminal angle between 0° and 360° or between -360° and 0° .

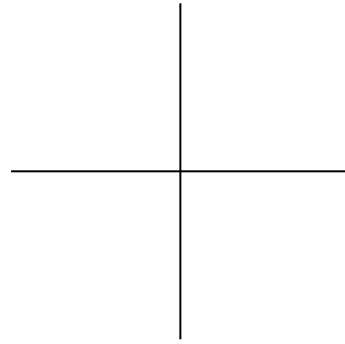
1. 137°



Reference Angle: _____

Coterminal Angle: _____

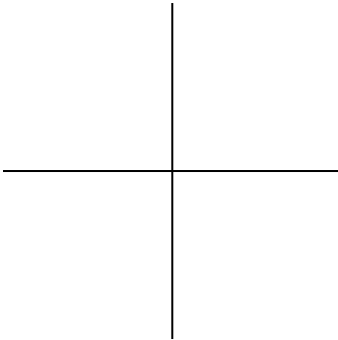
2. -160°



Reference Angle: _____

Coterminal Angle: _____

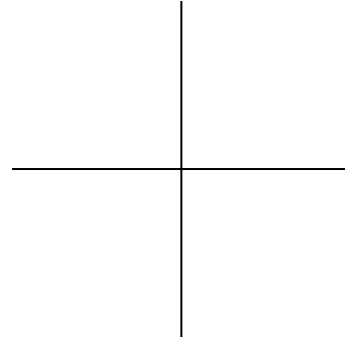
3. $-\frac{\pi}{4}$



Reference Angle: _____

Coterminal Angle: _____

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



Reference Angle: _____

Coterminal Angle: _____

Convert each radian measurement to a degree measurement, and each degree measurement to a radian measurement.

Show all of your work!

5. 405°

6. $\frac{11\pi}{12}$

Find the arc length. **Show your work and round your answers to the nearest tenth.**

7. $r = 11 \text{ km}, \theta = 90^\circ$

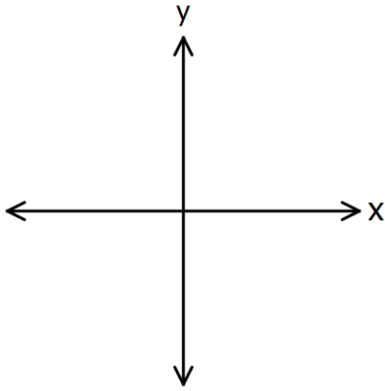
8. $r = 14 \text{ mi}, \theta = \frac{5\pi}{4}$

Find the sector area. **Show your work and round your answer to the nearest tenth.**

9. $r = 9 \text{ cm}, \theta = 45^\circ$

Find the exact values of $\sin \theta$, $\cos \theta$, $\tan \theta$, $\csc \theta$, $\sec \theta$, and $\cot \theta$ where θ is an angle in standard position whose terminal side contains the given point. Write answers in simplest form.

10. (12,-7)



$$\sin \theta = \underline{\hspace{2cm}}$$

$$\csc \theta = \underline{\hspace{2cm}}$$

$$\cos \theta = \underline{\hspace{2cm}}$$

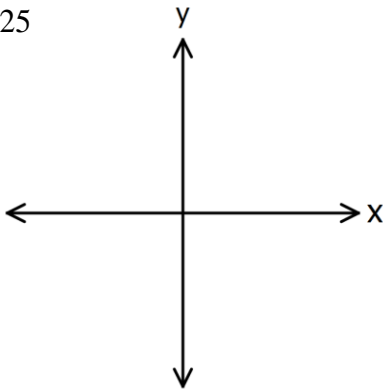
$$\sec \theta = \underline{\hspace{2cm}}$$

$$\tan \theta = \underline{\hspace{2cm}}$$

$$\cot \theta = \underline{\hspace{2cm}}$$

Draw the two triangles for the trig functions and find the coordinates that go with it. **There will be 2 answers.** Leave answers in simplest radical form. (Remember All Students Take Calculus). Then find the angles from $[0, 360^\circ)$ in standard position (round to the nearest tenth of a degree).

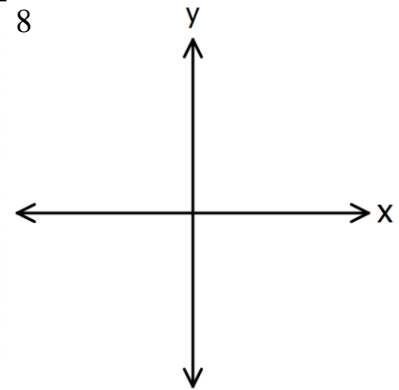
11. $\sin(\theta) = \frac{7}{25}$



Coordinates: _____ and _____

Angles: _____ and _____

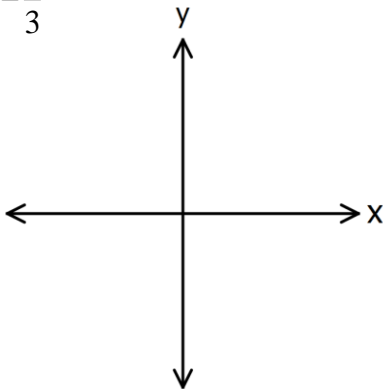
12. $\tan(\theta) = \frac{5}{8}$



Coordinates: _____ and _____

Angles: _____ and _____

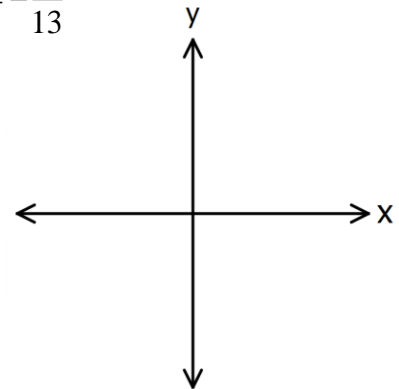
13. $\cos(\theta) = -\frac{1}{3}$



Coordinates: _____ and _____

Angles: _____ and _____

14. $\sin(\theta) = -\frac{6}{13}$

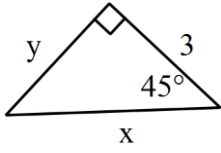


Coordinates: _____ and _____

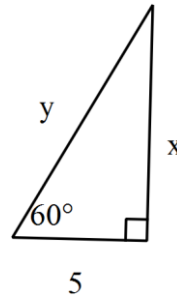
Angles: _____ and _____

Find the missing sides using special right triangle rules ($30^\circ - 60^\circ - 90^\circ$ or $45^\circ - 45^\circ - 90^\circ$). Leave answer in simplest radical form.

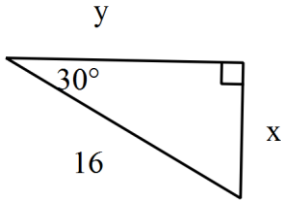
15.



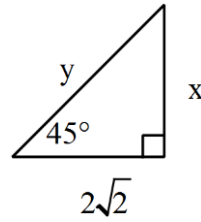
16.



17.

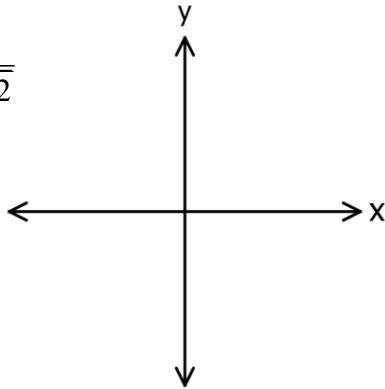


18.



Find all angles in the interval $[0^\circ, 360^\circ)$ that satisfy each equation.

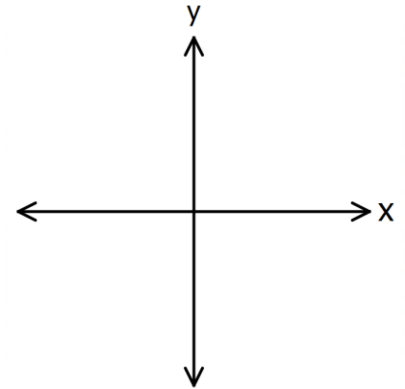
19. $\cos(\theta) = \frac{1}{\sqrt{2}}$



Degree: _____ and _____

Radian: _____ and _____

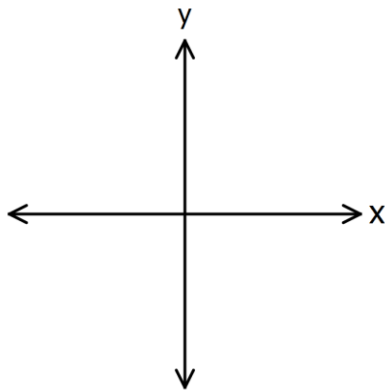
20. $\tan(\theta) = 1$



Degree: _____ and _____

Radian: _____ and _____

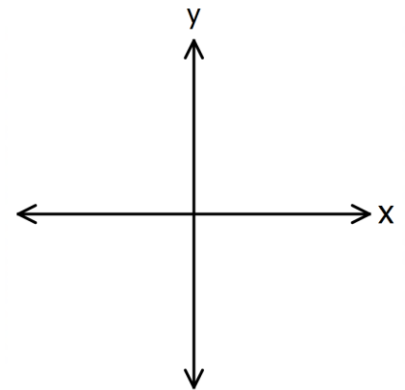
21. $2\sin(\theta) + \sqrt{3} = 0$



Degree: _____ and _____

Radian: _____ and _____

22. $\sqrt{3}\tan(\theta) = -1$



Degree: _____ and _____

Radian: _____ and _____