Unit 8

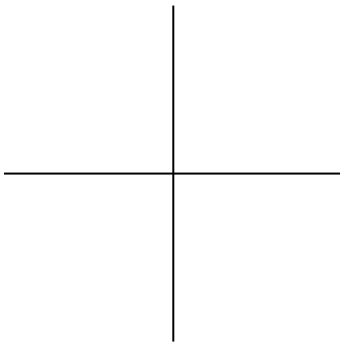
Name: _____ Date: _____ Period: ____

SCORE: /

Secondary Math 3 Unit 8 Test Review

Sketch each of the following angles in standard position. State each angle's reference angle and find a coterminal angle. Use degrees for #1 & #2. Use radians for #3 & #4.

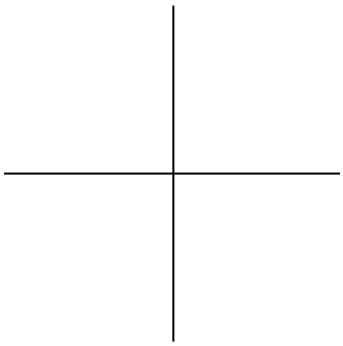
1. 137°



Reference Angle: _____

Coterminal Angle: _____

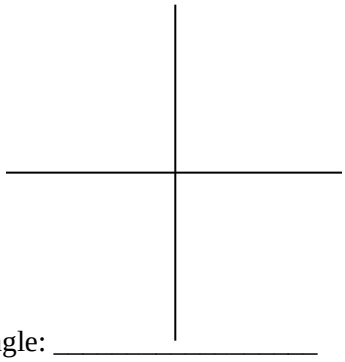
2. -160°



Reference Angle: _____

Coterminal Angle: _____

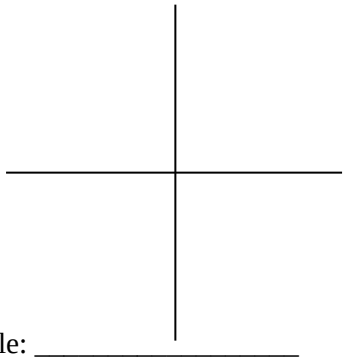
3. $-\frac{\pi}{4}$



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. $r = 11$ km, $\theta = 90°$

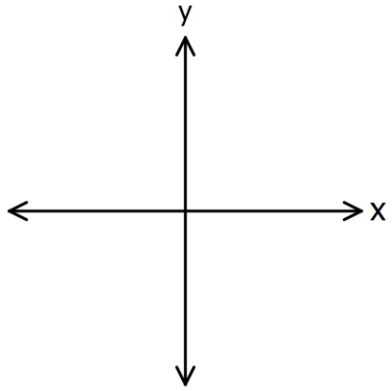
8. $r = 14$ mi, $\theta = \frac{5\pi}{4}$

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

9. $r = 9$ cm, $\theta = 45°$

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)



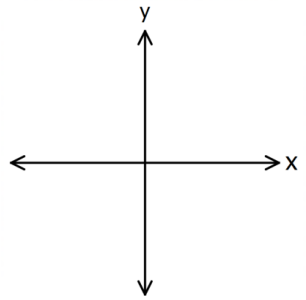
$\sin\theta$=_____ $\csc\theta$=_____

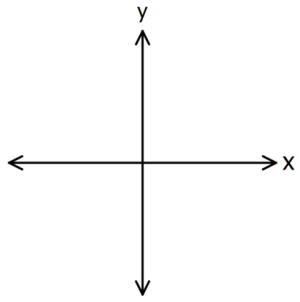
$\cos\theta$=_____ $\sec\theta$=_____

$\tan\theta$=_____ $\cot\theta$=_____

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 $[0, 360°)$ in standard position (round to the nearest tenth of a degree).

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

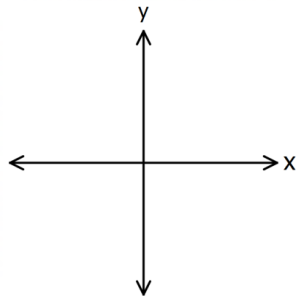


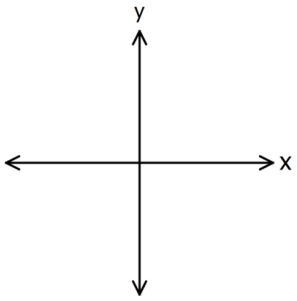


Coordinates: _____ and _____

Angles: _____ and _____

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

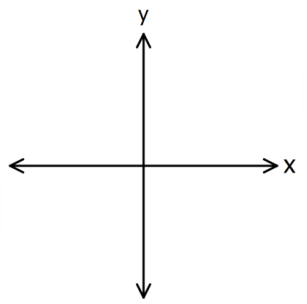




Coordinates: _____ and _____

Angles: _____ and _____

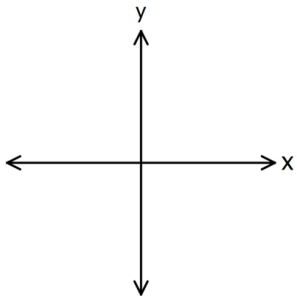
13. $\cos(\theta) = -\frac{1}{3}$



Coordinates: _____ and _____

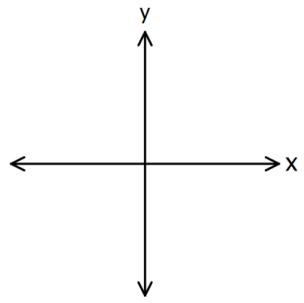
Angles: _____ and _____

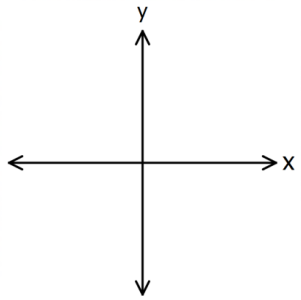
14. $\sin(\theta) = -\frac{6}{13}$



Coordinates: _____ and _____

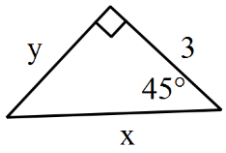
Angles: _____ and _____



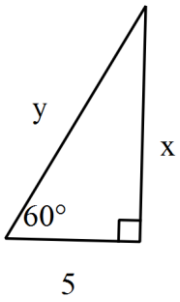


Find the missing sides using special right triangle rules ($30° - 60° - 90°$ or $45° - 45° - 90°$). Leave answer in simplest radical form.

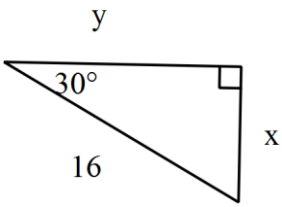
15.



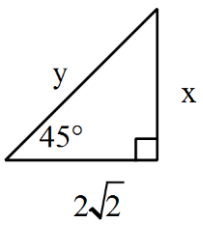
16.



17.

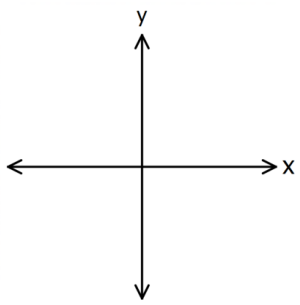


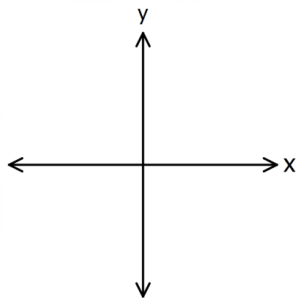
18.



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

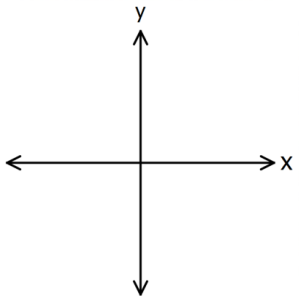
19. $\cos(\theta) = \frac{1}{\sqrt{2}}$

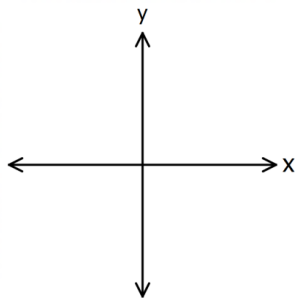




Degree: _____ and _____

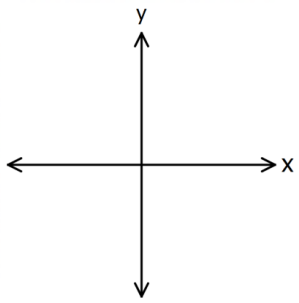
20. $\tan(\theta) = 1$

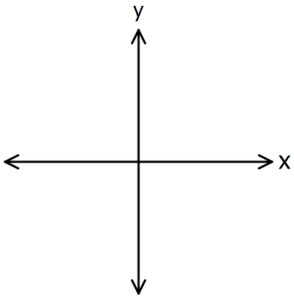




Degree: _____ and _____

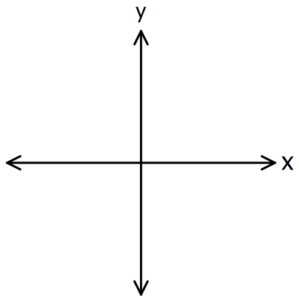
21. $2\sin(\theta) + \sqrt{3} = 0$

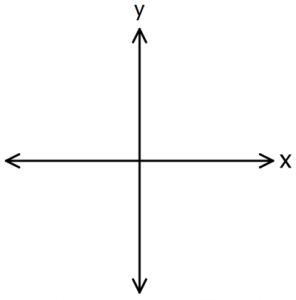




Degree: _____ and _____

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





Degree: _____ and _____