Honors Math II Name_____ ID: 1

Unit 9 Review

Date_____ Period____

State if the given angles are coterminal.

1) 30°, −330°

2) 175°, −185°

Find a positive and a negative coterminal angle for each given angle.

3) −165°

4) 195°

State the quadrant in which the terminal side of each angle lies.

5) −107°

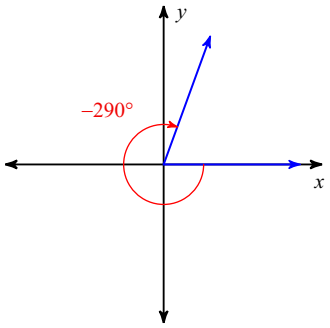
6) 150°

7) 520°

8) −5°

Find the reference angle.

9)



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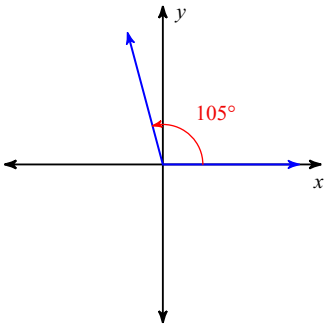

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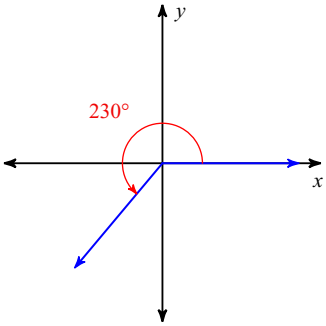

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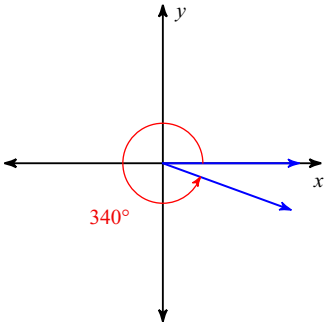


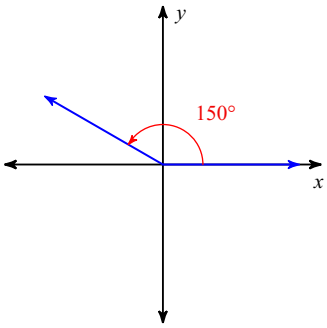
Convert each degree measure into radians and each radian measure into degrees.

13) -285°

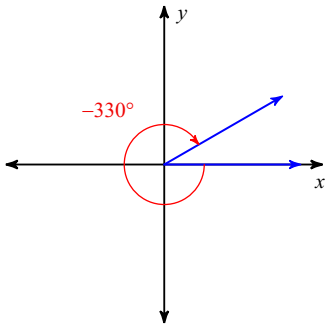
14) $\frac{17\pi}{9}$

Use your unit circle and find the exact value of each trigonometric function.

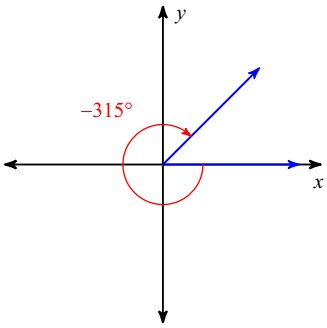
15) cot θ



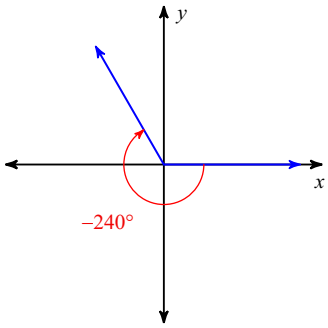
16) sin θ



17) tan θ



18) csc θ



19) tan 330°

20) cot 270°

21) csc 210°

22) sin 360°

23) cos (−135°)

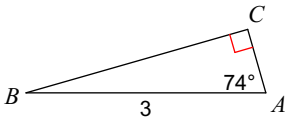
24) sec 135°

25) $\cot \frac{\pi}{6}$

26) tan π

Solve each triangle. Round answers to the nearest tenth.

27)



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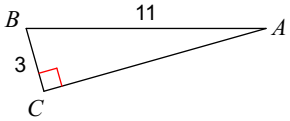
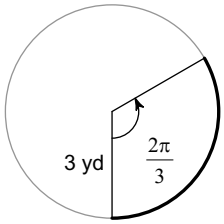


29) Given the following point. Graph and find all six trigonometric functions. State the reference angle.
(-4, -6)

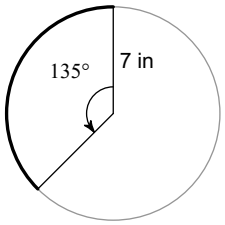
30) Given the following point. Graph and final all six trigonometric functions. Find the reference angle.
(6, -2)

Find the length of each arc.

31)

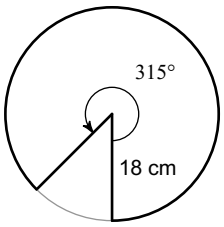


32)

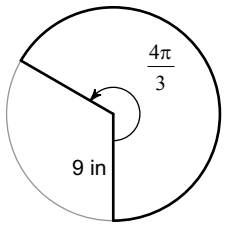


Find the area of each sector.

33)



34)



Using radians, find the amplitude and period of each function.

35) $y = 2\sin\left(\theta + \frac{7\pi}{4}\right)$

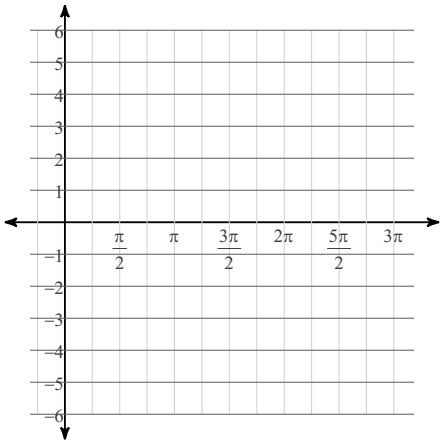
36) $y = 8\sin 4\theta - 2$

37) $y = 8\cos\left(\frac{\theta}{2} - \frac{\pi}{3}\right) + 1$

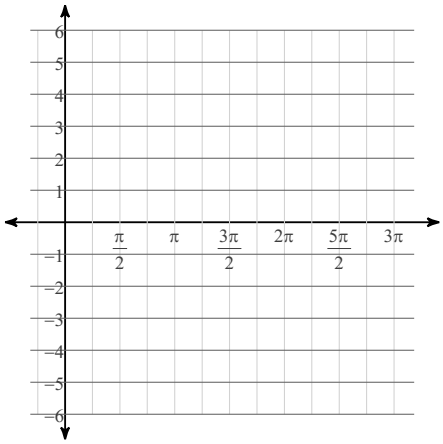
38) $y = 2 + 9\cos\left(\theta + \frac{7\pi}{6}\right)$

Graph each function using radians.

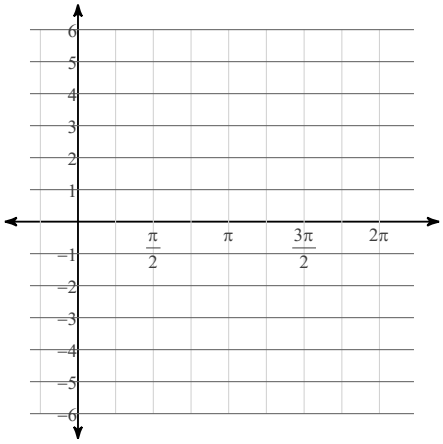
39) $y = 2\cos\,\theta$



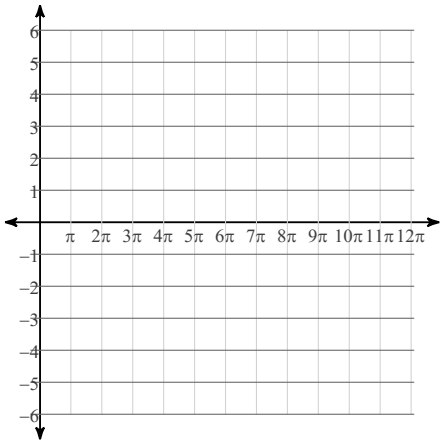
40) $y = 4\sin\,\theta$



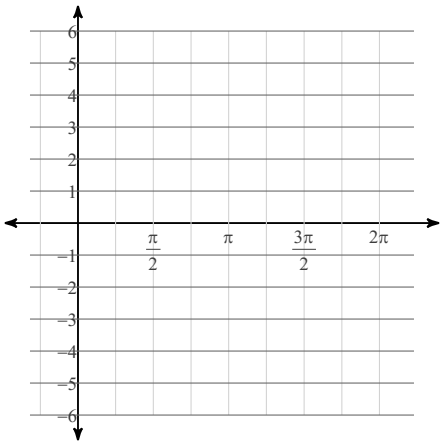
41) $y = \cos\,2\theta$



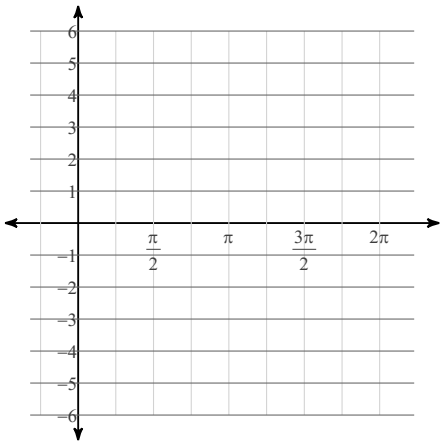
42) $y = \sin\,\frac{\theta}{4}$



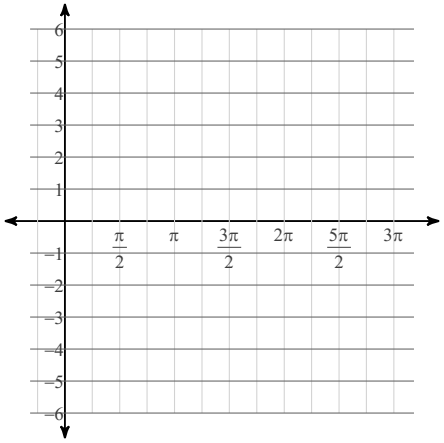
43) $y = 3\cos 2\theta + 2$



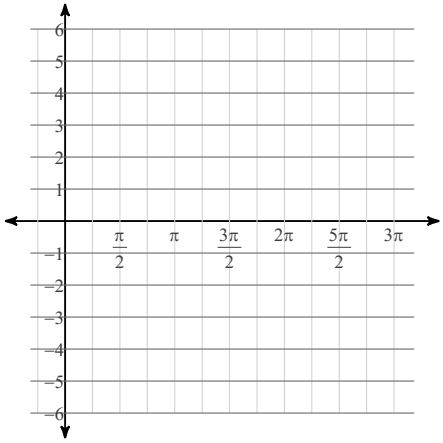
44) $y = -1 + 2\sin 4\theta$



45) $y = -1 + \frac{1}{2} \cdot \sin\left(\theta - \frac{\pi}{2}\right)$



46) $y = 3\cos\left(\theta - \frac{3\pi}{4}\right) - 2$



47) An aircraft approaching an airport descends with an angle of depression of 4°. If the horizontal distance from the airport is 2 km. How high is the aircraft at this point?

48) A building shadow is 98 meters long. The angle of elevation to the sun is 14.5°. How tall is the building?