Honors Math 2 Name_____

Unit 9 Review #2

Determine the amplitude and period of each function.

1. $y = -2\sin\theta$

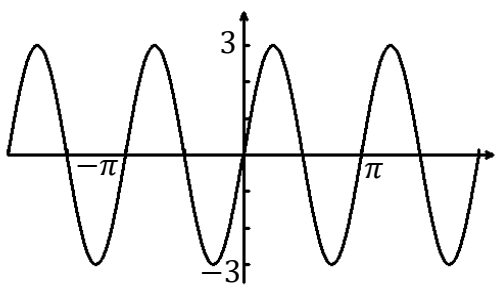
2. $y = 3\cos 2\theta$

3. $y = \frac{1}{2}\cos 6\left(\theta + \frac{\pi}{4}\right)$

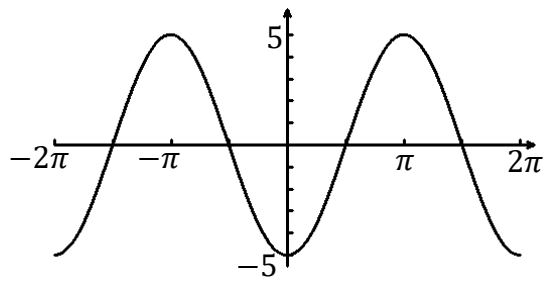
4. $y = 5\sin 2\left(\theta - \frac{\pi}{6}\right)$

Give the amplitude and period of each function graphed below. Then write an equation of each graph.

5.

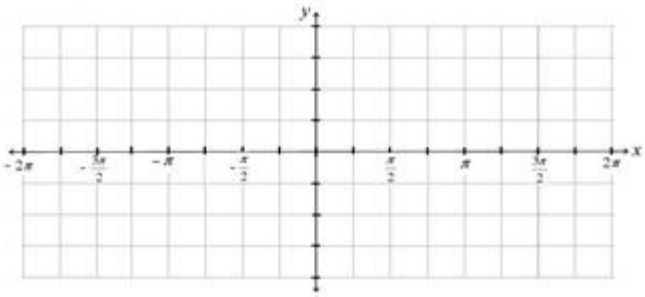


6.

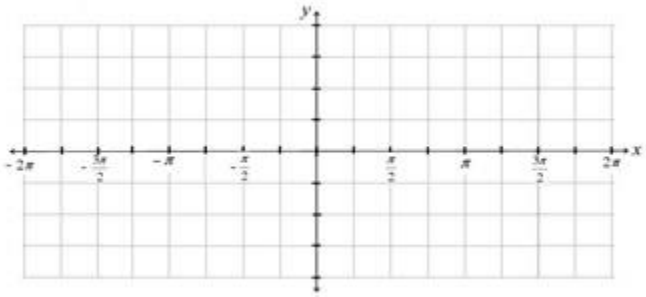


Sketch the graph of the function over the interval $-2\pi \le x \le 2\pi$.

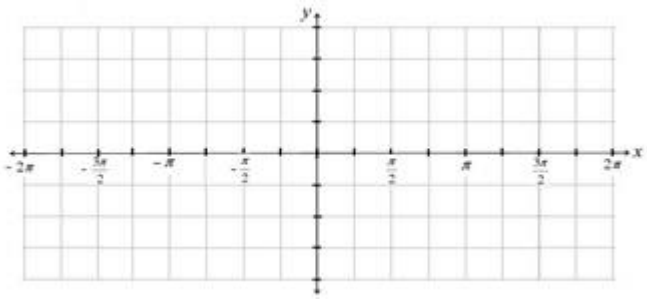
7. $y = 4\sin\theta$



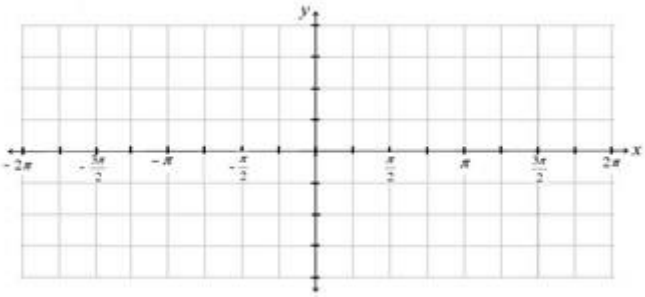
8. $y = -\cos 2\theta$



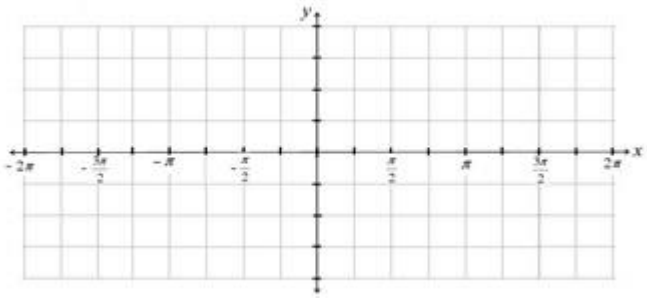
9. $y = -\sin\frac{1}{2}\theta$



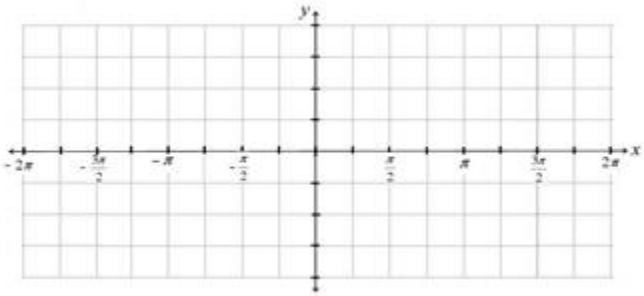
10. $y = \frac{3}{2}\cos 2\theta$



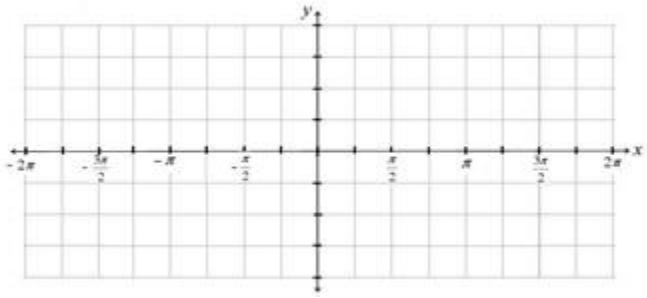
11. $y = \frac{1}{2}\cos\left(\theta - \frac{\pi}{4}\right) + 2$



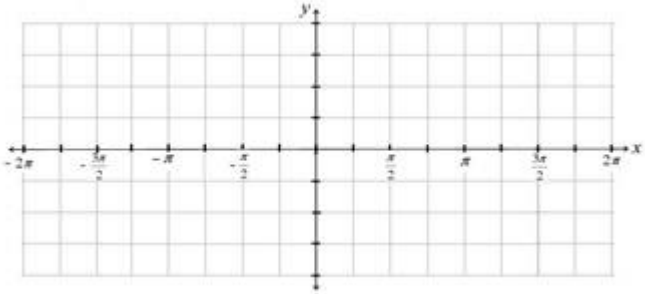
12. $y = -\cos(\theta + \pi) - 3$



13. $y = -3\sin\left(\theta - \frac{\pi}{2}\right) + 1$

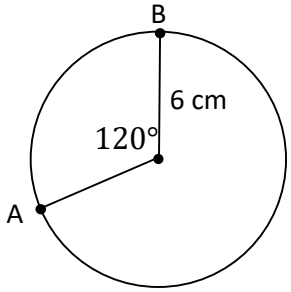


14. $y = -4\cos\left(\theta + \frac{\pi}{4}\right)$

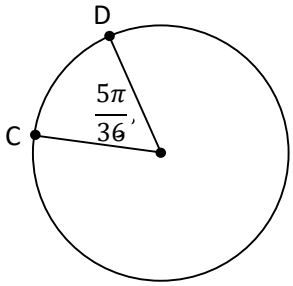


Find the given arc length.

15. Find the length of arc AB.

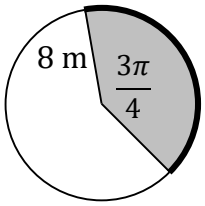


16. The diameter is 24 cm.
Find the length of arc CD.

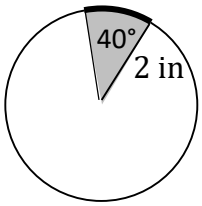


Find the area of the sector.

17.



18.



19. From the top of a fire tower, a forest ranger sees his partner on the ground at an **angle of depression** of 40°. If the tower is 45 feet in height, how far is the partner from the base of the tower, to the *nearest tenth of a foot*?

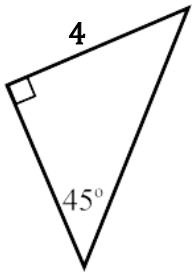
20. Devon is standing 100 feet from the Eiffel Tower and sees a bird land on the top of the tower (he has really good eyes!). If the **angle of elevation** from Devon to the top of the Eiffel Tower is close to 84.6°, how tall is the tower?

21. Given the ordered pair. Graph and find all six trigonometric functions and find the reference angle. $(-5, -7)$

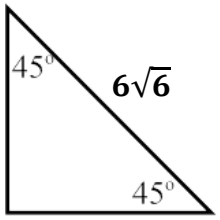
No Calculator Section.

Find the missing sides of the triangles.

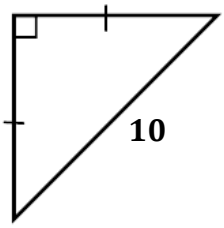
1.



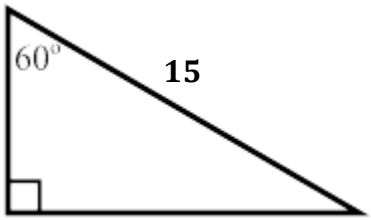
2.



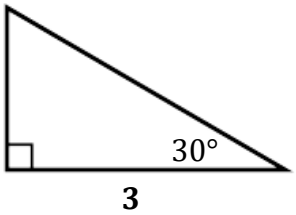
3.



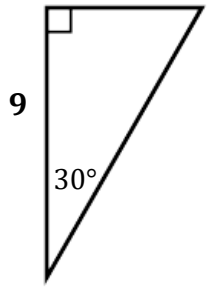
4.



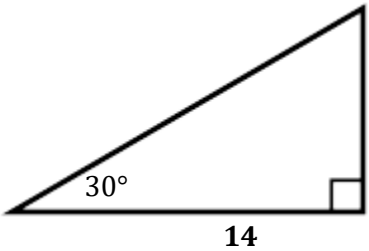
5.



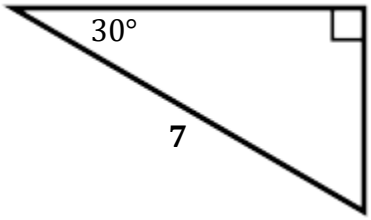
6.



7.

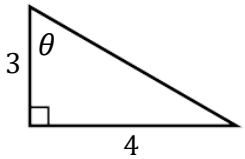


8.

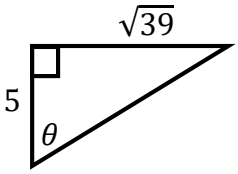


Find the value of the trig function indicated.

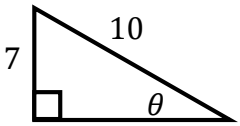
9. $\sin\theta$



10. $\cos\theta$



11. $\tan\theta$



12. $\sec\theta$