Honors Math 2 Name_____

Quarter 3 Replacement Review Period_____Date_____

Simplify each expression.

1. $\frac{x^2+2x-15}{x^2+7x+10}$	2. $\frac{8-14x-4x^2}{2x^2+x-1}$
3. $\frac{5-x}{x-5} \div \frac{10x^3-2x^2}{4x^2-12x}$	4. $\frac{5x-2}{x^2-9} - \frac{x+1}{x+3}$
5. $\frac{n+6}{2n+2} - \frac{n-5}{n+1}$	6. $\frac{x}{2x-8} - \frac{3}{6x+8}$
7. $\frac{\frac{x}{x+1} - \frac{4}{x+1}}{x^3}$	8. $\frac{\frac{x+2}{4} - \frac{x+3}{8}}{\frac{x+1}{x^2}}$

Solve for x.

9. $\frac{1}{2x} + \frac{3}{x+7} = \frac{-1}{x}$	10. $\frac{2x}{x-2} = \frac{1}{x^2-4} + 1$

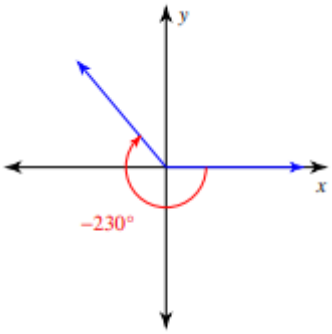
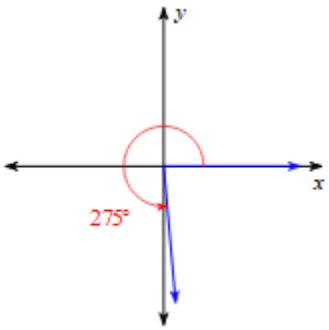
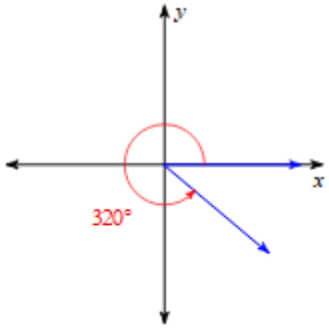
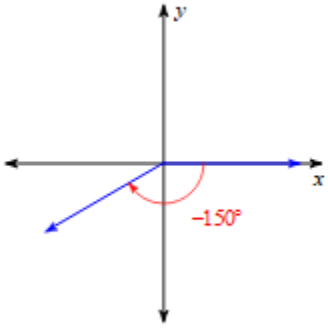
Convert each degree measure into radians.

11. $248°$	12. $-18°$

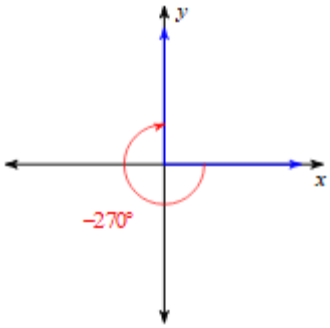
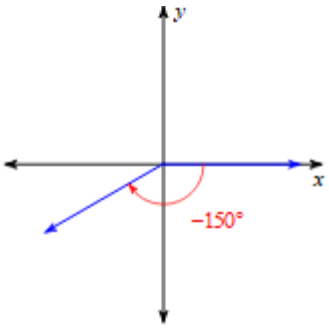
Convert each radian measure into degrees.

13. $\frac{5\pi}{3}$	14. $\frac{-6\pi}{11}$

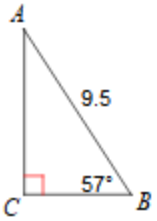
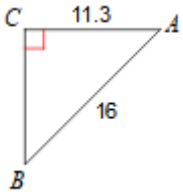
Find the reference angle.

15. 	16. 
17. 	18. 

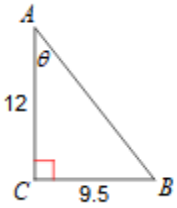
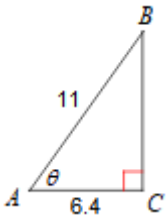
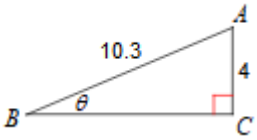
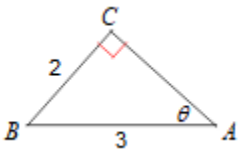
Find the exact value of each trigonometric function.

19. $\tan\theta$ 	20. $\cot\theta$ 
21. $\sec 405°$	22. $\csc 120°$
23. $\sin 210°$	24. $\cos(-120°)$

Solve each triangle.

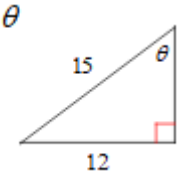
25. 	26. 

Find the measure of the indicated angle.

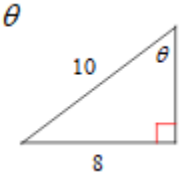
27. 	28. 
29. 	30. 

Find the value of the indicated trigonometric function.

31. $\cos\theta$

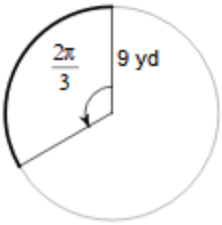


32. $\cot\theta$

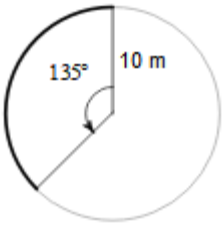


Find the length of each arc.

33.

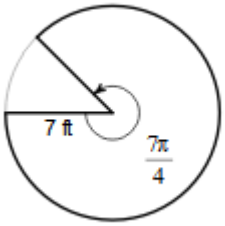


34.

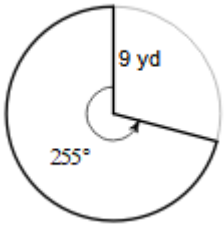


Find the area of each sector.

35.

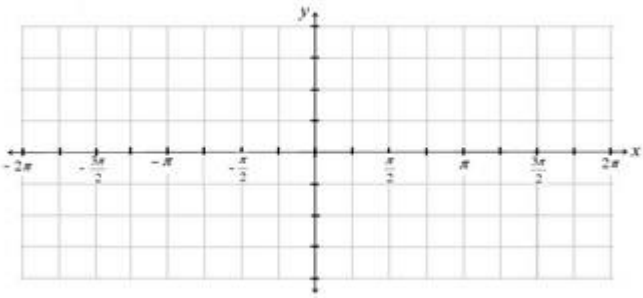


36.

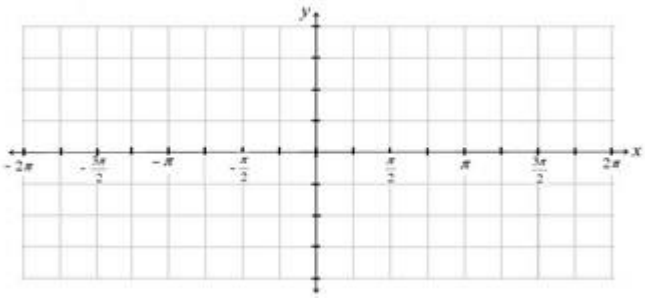


Sketch the graph of the function over the interval $-2\pi \le x \le 2\pi$.

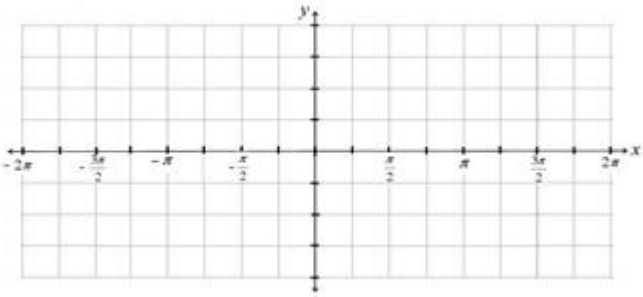
37. $y = 4\sin 2x$



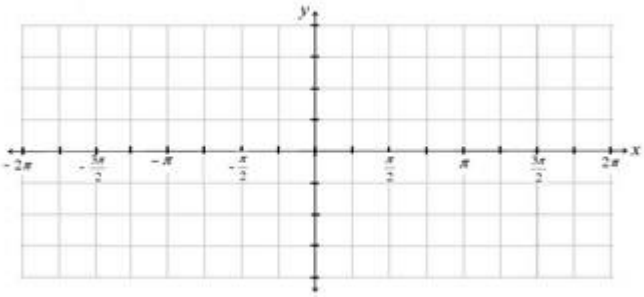
38. $y = -2\cos x$



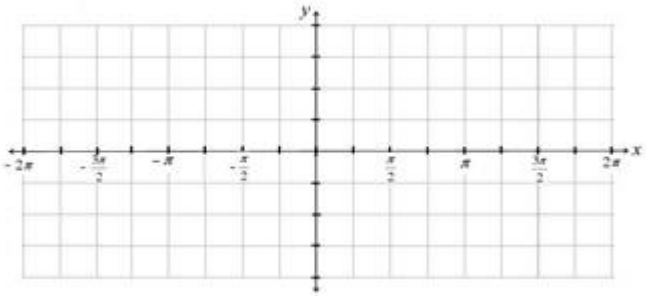
39. $y = \sin\left(2x - \frac{\pi}{2}\right) + 1$



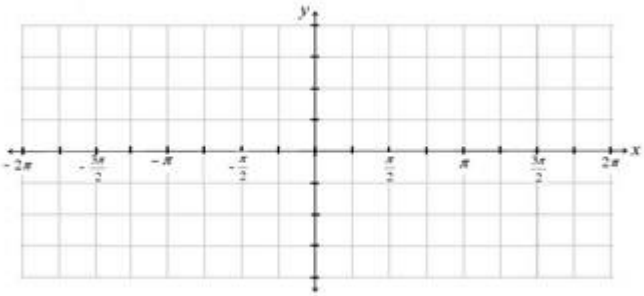
40. $y = 2\cos(x + \pi) - 2$



41. $y = 3\cos\frac{1}{2}x - 1$



42. $y = -2\sin(4x) + 2$



Determine the amplitude, period, phase shift, vertical shift, domain, and range for each.

43. $y = 2 + 3\sin\left(4x + \frac{\pi}{2}\right)$

44. $y = 2\cos(x - \pi)$

45. $y = \frac{1}{2}\cos 2x - 4$

46. $y = 3 + 4\sin(x - \pi)$

47. A cliff is 80 feet above the sea. From the cliff the angle of depression to a boat is 35°. How far is the boat from the base of the cliff?

48. The height of a building is 250 ft. What is the angle of elevation from a point on the level ground 200 ft away from the base of the building?

49. For a laser light show at an amusement park, the laser beam directed from the top of a 30 ft building is to reflect from an object that is 100 ft away from a point directly below the location of the laser. What is the angle of depression from the laser to the reflecting object?