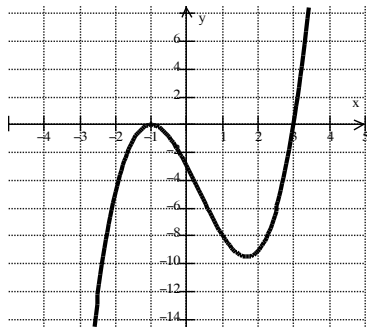


1. Evaluate the $\lim_{x \rightarrow \infty} f(x)$.

$$f(x) = x^4 - 3x^3 + 8x - 2$$

3. Write the equation for the graph below.



6. Identify the horizontal asymptotes of $f(x)$.

$$f(x) = \frac{4x^2}{x^2 - 5x + 6}$$

8. Evaluate $\log 0 =$

10. Evaluate $\log_3 \left(\frac{1}{16} \right) =$

12. Solve for x . $\log_2 8 = 3$

14. Simplify the logarithmic expression.

$$2 \log(x + 3) - \log x$$

16. Solve for x . $2^{3x-1} = 8$

18. Solve for x . $5 - 2 \ln x = 8$

20. Evaluate. $\sin 60^\circ =$

22. Evaluate $\tan(-120^\circ) =$

24. Evaluate $\sin(-270^\circ) =$

26. Find $\sin \theta$ if $\cos \theta = -\frac{3}{5}$ and $\tan \theta < 0$

28. What is the amplitude of $y = 3 \sin 2x$?

2. Identify the vertical asymptotes of $f(x)$.

$$f(x) = \frac{4x^2}{x^2 - 5x + 6}$$

4. Find the zeros of the function.

$$f(x) = x^3 - 16x$$

5. Solve for x .

$$\frac{x^2 - 2x + 1}{x + 5} = 0$$

7. Given that -1 is a zero of $f(x)$, find all zeros.

$$f(x) = x^3 - 4x^2 + x + 6$$

9. Evaluate $\log_3 9 =$

11. State the domain and range of $y = \ln x$

13. Solve for x . $2e^{x+3} = 10$

15. Solve the inequality.

$$2x^3 - 5x^2 + 3x \leq 0$$

17. Solve for x . $\log_2 x + \log_2(x - 2) = 3$

19. Solve for x . $4^{x-1} = 5$

21. Evaluate $\cos \frac{3\pi}{2} =$

23. Evaluate $\sec \frac{3\pi}{4} =$

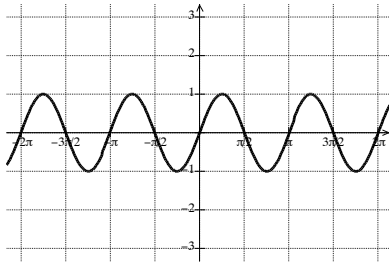
25. Solve for θ , $\pi < \theta < \frac{3\pi}{2}$. $\sin \theta = -\frac{\sqrt{3}}{2}$

27. Convert 150° to radians.

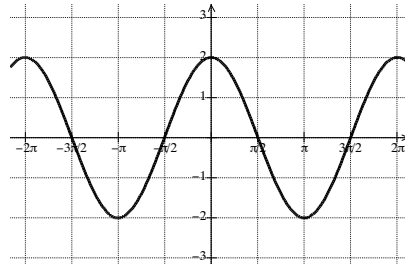
29. What is the period of $y = \tan \frac{x}{2}$?

Write the equation for the following graphs.

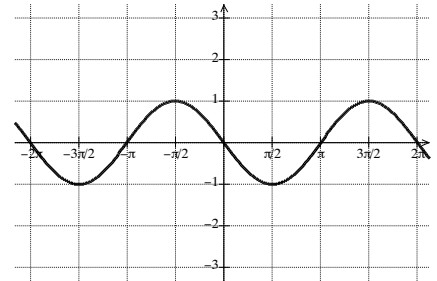
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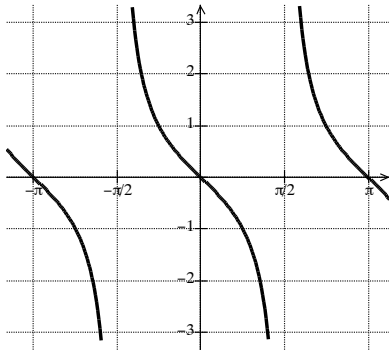
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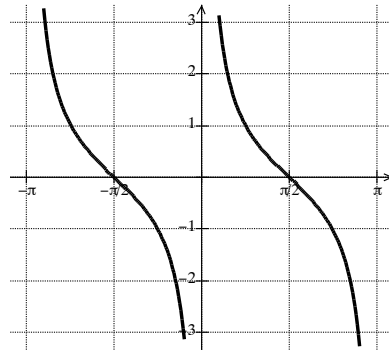
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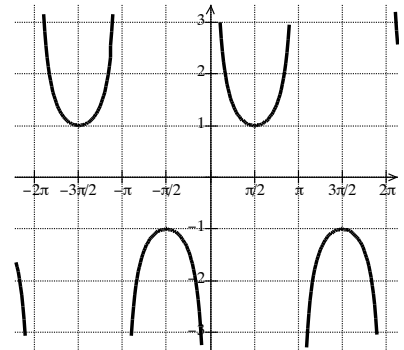
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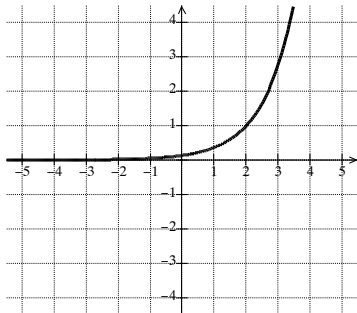
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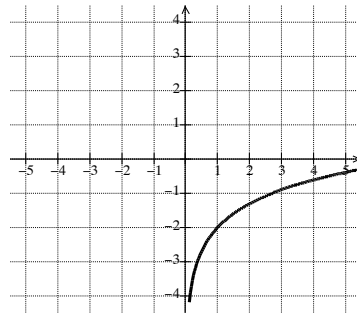
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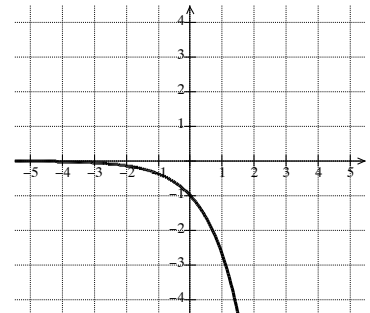
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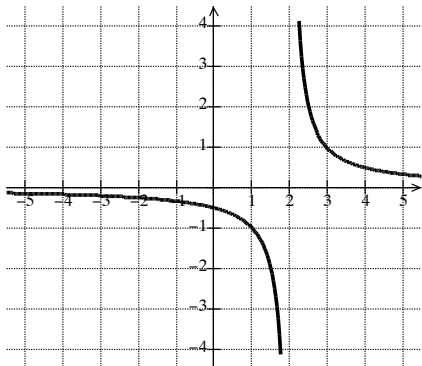
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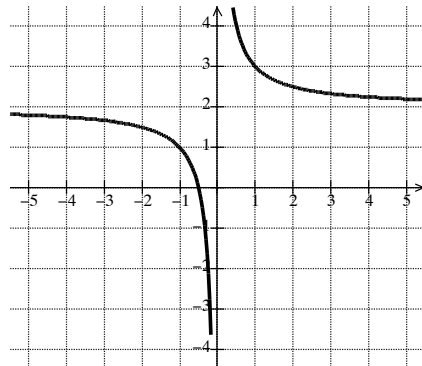
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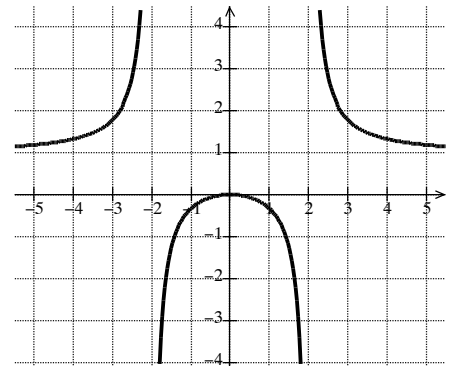
39.



40.



41.



QUARTER 3 FINAL REVIEW
PART 2: CALCULATOR ALLOWED

42. Simplify $\frac{x^6y^3}{x^{-2}y^5}$

43. Solve for x $2x^2 + 5x = 3$

44. Write the equation of a line that goes through the point (3,5) and has a slope of -2 .

45. Write the quadratic in vertex form. $y = x^2 + 8x + 12$

46. Solve for x. $\frac{3x}{x+2} + \frac{2}{x-1} = \frac{5}{x^2+x-2}$

47. Use a calculator to solve the inequality. $3x^3 - 2x^2 - x + 6 \geq 0$

48. $g(x)$ has degree 3 and has zeros -2 , 4 , and 5 . Which equation could be the equation of $g(x)$?

49. Andrew invests \$500 at 6% interest compounded quarterly. Find the value of his investment after 10 years.

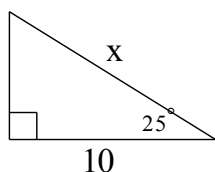
50. Ruby has \$700 to invest. What annual interest rate compounded continuously is required for her money to double in 10 years?

51. The radius of a car wheel is 15 inches. How many revolutions per minute is the wheel making when the car is traveling at 30 miles per hour? Round your answer to the nearest rpm (revolutions per minute). (hint: 5280 feet in a mile)

52. From a distance of 43 feet from the base of a building the angle of elevation to the top of the building is 63° .

Estimate the height of the building to the nearest foot.

53. Find the missing side.



54. Find a positive and negative coterminal angle to 120° .