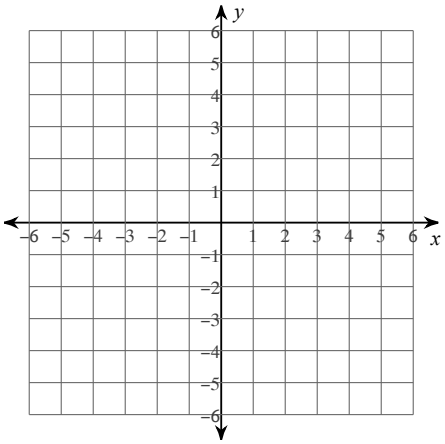
Preparing for Pre-Calculus Name_____ ID: 1

Summer Review

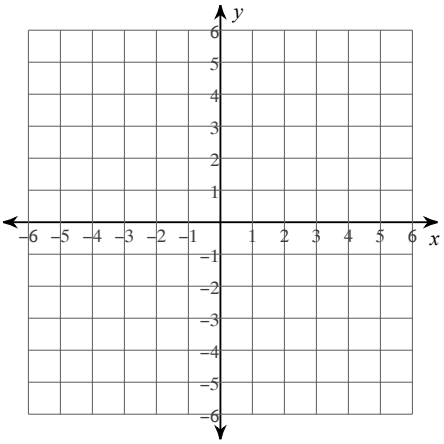
Date_____ Period____

Linear Functions: Sketch the graph of each line.

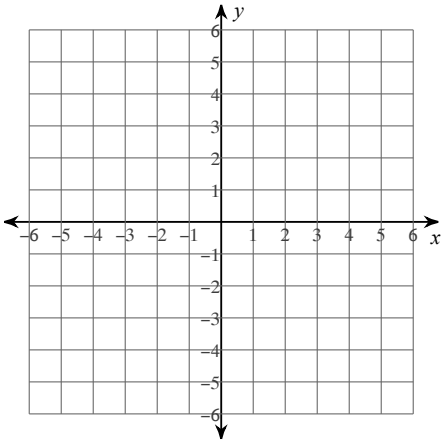
1) $y = 4x$



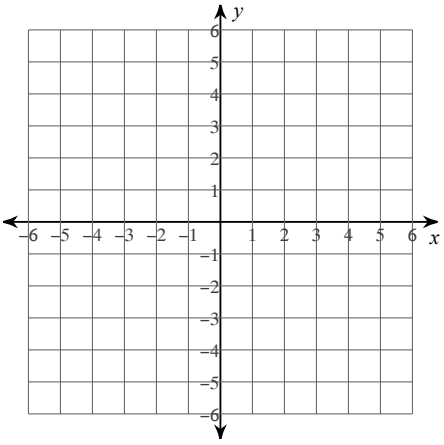
2) $y = -\frac{4}{3}x - 3$



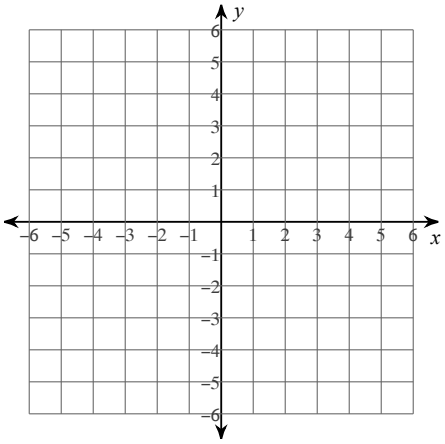
3) $x - y = 4$



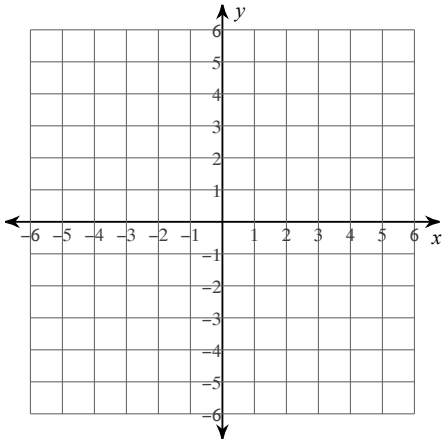
4) $y = -3$



5) $x + 2y = 6$



6) $x = 4$



Writing Equations of Linear Functions: Write the slope-intercept form of the equation of the line through the given points.

7) through: $(-3, 3)$ and $(0, -4)$

8) through: $(0, 4)$ and $(-5, 1)$

Writing Equations of Linear Functions:Write the slope-intercept form of the equation of the line described.

9) through: $(-3, 4)$, parallel to $y = -4x$

10) through: $(4, 3)$, perp. to $y = 2x + 4$

Factoring: Factor each completely.

11) $4p^3 - 10p^2 - 10p + 25$

12) $81n^3 + 36n^2 + 36n + 16$

13) $n^2 + 6n - 16$

14) $5m^2 - 65m + 200$

15) $v^2 - 11v + 24$

16) $p^2 + 4p - 45$

17) $2x^2 + 13x - 24$

18) $4x^3 - 42x^2 + 108x$

19) $3r^3 - 37r^2 + 90r$

20) $5x^2 + 14x + 9$

21) $8x^2 - 83x + 30$

22) $8x^3 + 2x^2$

23) $9x^2 - 1$

24) $b^2 - 1$

25) $9x^2 - 30x + 25$

26) $25p^2 - 20p + 4$

27) $m^3 + 27$

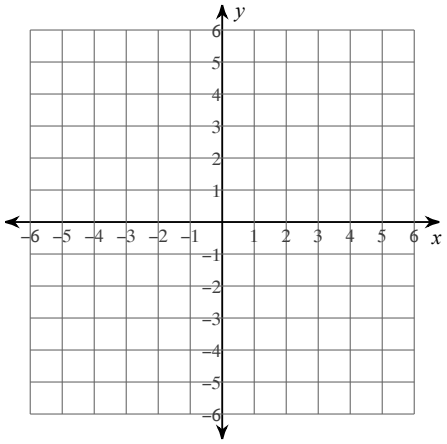
28) $64u^3 - 125$

29) $-125a^3 + 216$

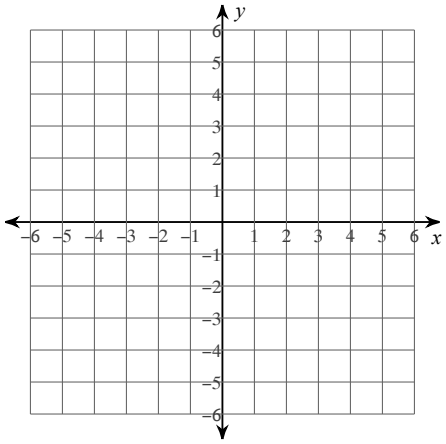
30) $-256x^3 + 500$

Absolute Value Functions: Graph each equation.

31) $y = -|x - 3| + 3$

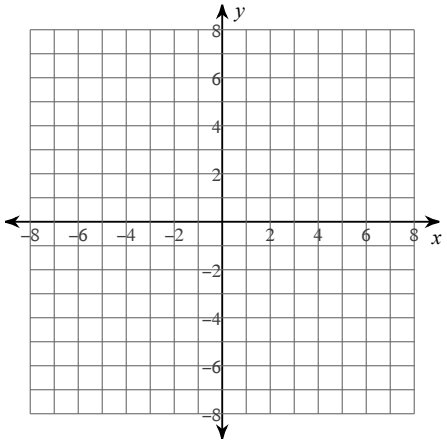


32) $y = |x - 2|$

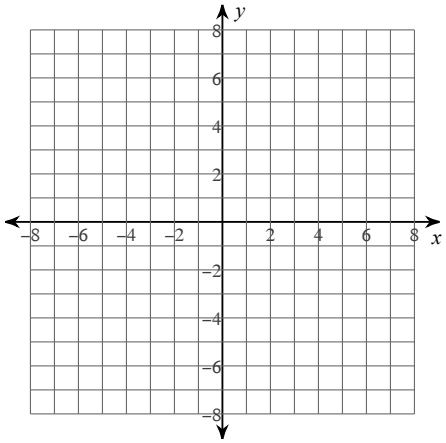


Quadratic Functions: Identify the vertex and axis of symmetry of each. Then sketch the graph.

33) $y = -x^2 - 4x - 6$

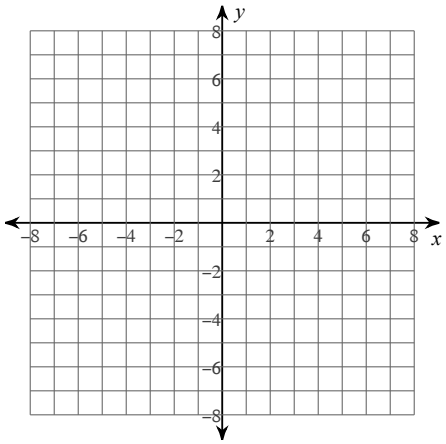


34) $y = (x - 1)^2 + 1$

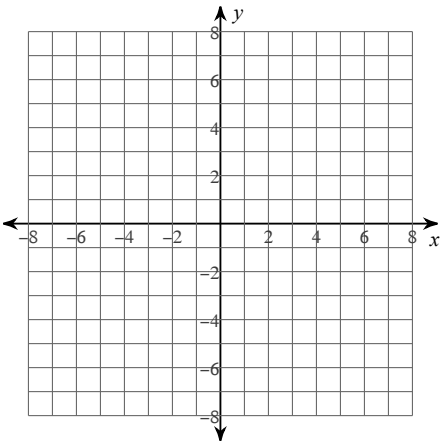


Square Root & Cube Root Functions: Sketch the graph of each function.

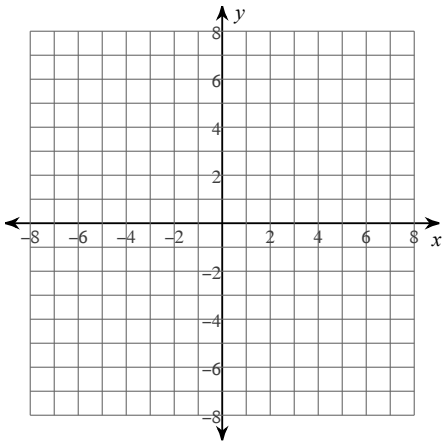
35) $y = \sqrt{x}$



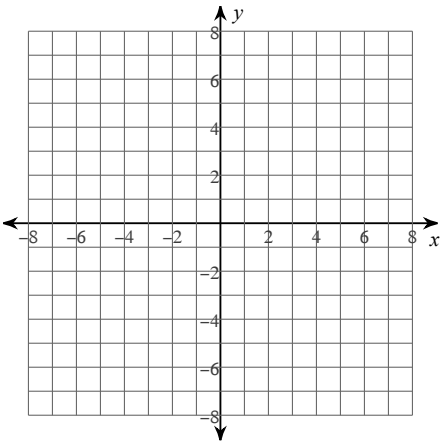
36) $y = \frac{1}{2}\sqrt{x-1} + 4$



37) $y = 3\sqrt[3]{x}$

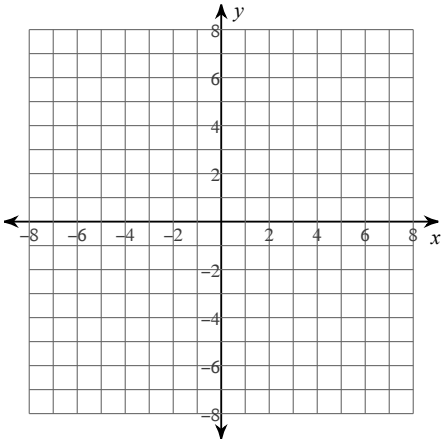


38) $y = \sqrt[3]{x-1} + 1$

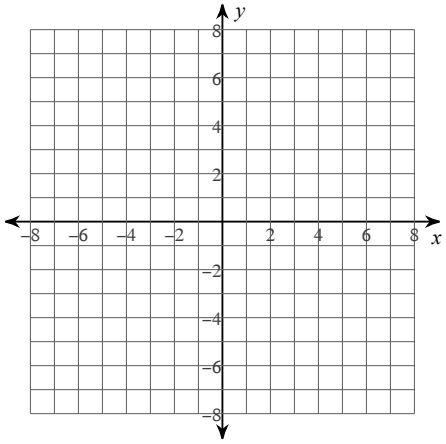


Rational Functions: Graph each function.

39) $f(x) = -\dfrac{3}{x+2} + 2$



40) $f(x) = \dfrac{x^2 + x - 12}{-4x^2 - 12x}$



Logrithmic Expressions: Evaluate each expression.

41) $\log_2 \dfrac{1}{8}$

42) $\log_3 27$

Logrithmic Expressions: Expand each logarithm.

43) $\log_9 \left(\dfrac{8}{5^2}\right)^5$

44) $\log_2 \dfrac{8^2}{11^6}$

Logrithmic Expressions: Condense each expression to a single logarithm.

45) $24\log_8 a + 6\log_8 b$

46) $6\log_9 x - 6\log_9 y$

Logrithmic Equations: Solve each equation.

47) $\log(p+3) = \log(4p-3)$

48) $5\ln(x-10) = -5$

49) $e^{-7v} - 7 = 20$

50) $16^{a+2} = 64$

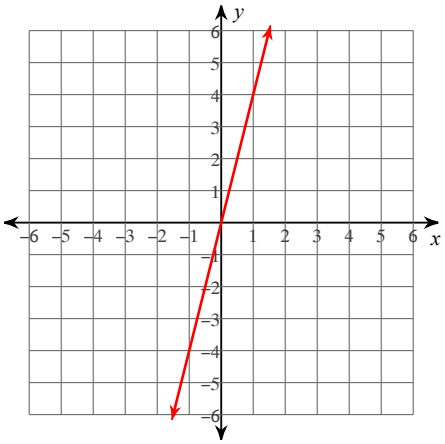
Pre-Calculus Name_____ ID: 1

Summer Review

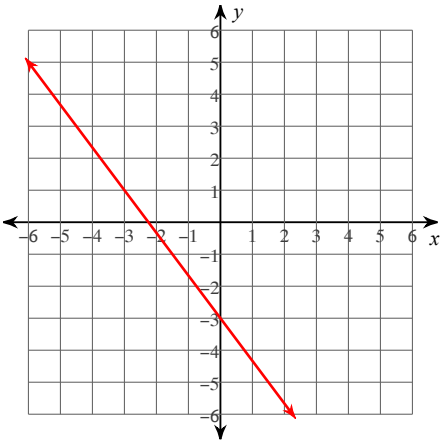
Date_____ Period____

Linear Functions: Sketch the graph of each line.

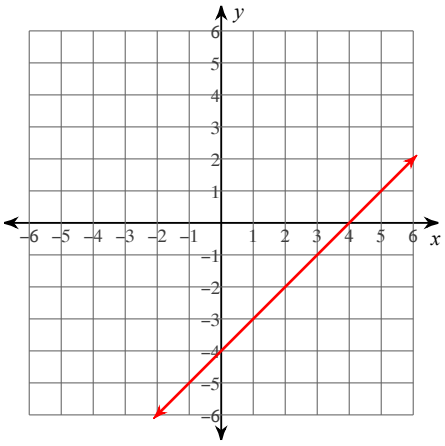
1) $y = 4x$



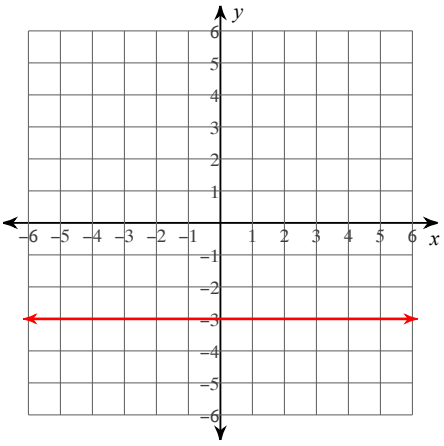
2) $y = -\frac{4}{3}x - 3$



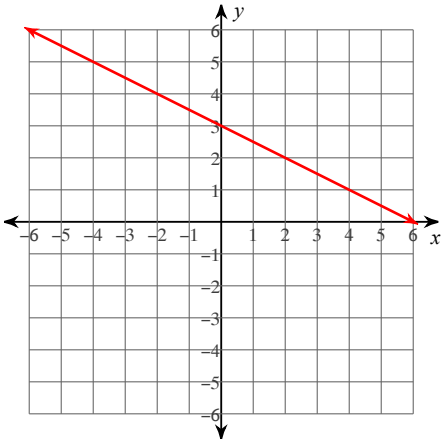
3) $x - y = 4$



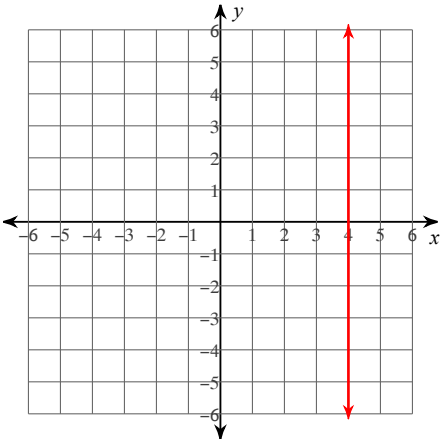
4) $y = -3$



5) $x + 2y = 6$



6) $x = 4$



Writing Equations of Linear Functions: Write the slope-intercept form of the equation of the line through the given points.

7) through: $(-3, 3)$ and $(0, -4)$

$y = -\frac{7}{3}x - 4$

8) through: $(0, 4)$ and $(-5, 1)$

$y = \frac{3}{5}x + 4$

Writing Equations of Linear Functions:Write the slope-intercept form of the equation of the line described.

9) through: $(-3, 4)$, parallel to $y = -4x$

$y = -4x - 8$

10) through: $(4, 3)$, perp. to $y = 2x + 4$

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

Factoring: Factor each completely.

11) $4p^3 - 10p^2 - 10p + 25$

$(2p^2 - 5)(2p - 5)$

12) $81n^3 + 36n^2 + 36n + 16$

$(9n^2 + 4)(9n + 4)$

13) $n^2 + 6n - 16$

$(n - 2)(n + 8)$

14) $5m^2 - 65m + 200$

$5(m - 5)(m - 8)$

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22) $8x^3 + 2x^2$

$2x^2(4x + 1)$

23) $9x^2 - 1$

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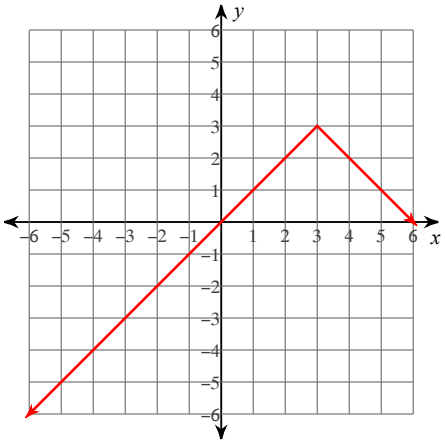
$(-5a + 6)(25a^2 + 30a + 36)$

30) $-256x^3 + 500$

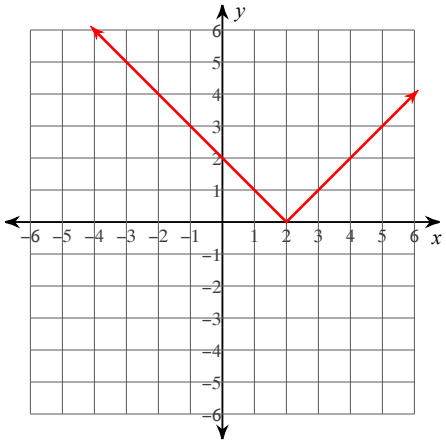
$4(-4x + 5)(16x^2 + 20x + 25)$

Absolute Value Functions: Graph each equation.

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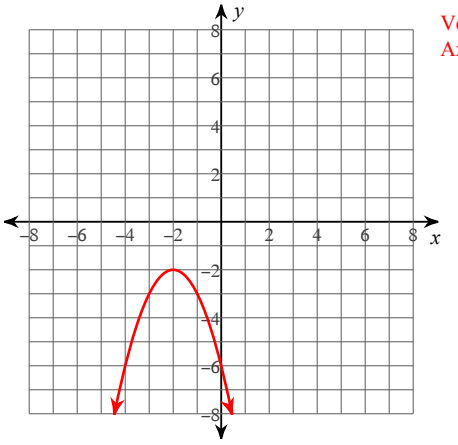


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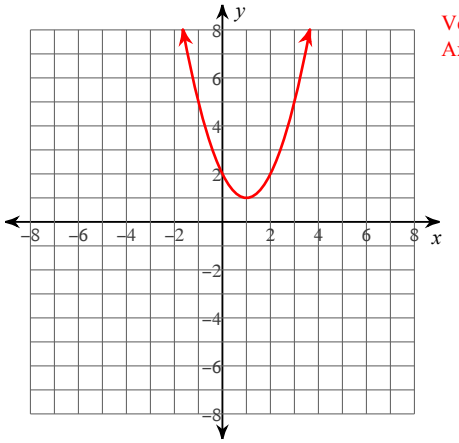
Quadratic Functions: Identify the vertex and axis of symmetry of each. Then sketch the graph.

33) $y = -x^2 - 4x - 6$



Vertex: $(-2, -2)$
Axis of Sym.: $x = -2$

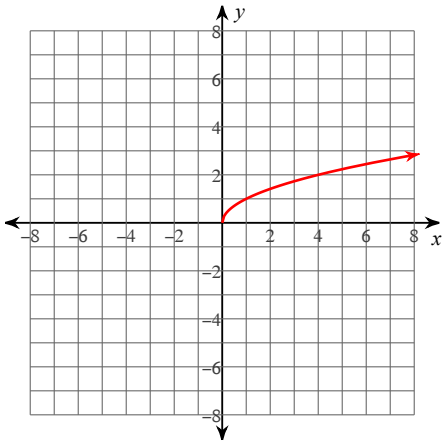
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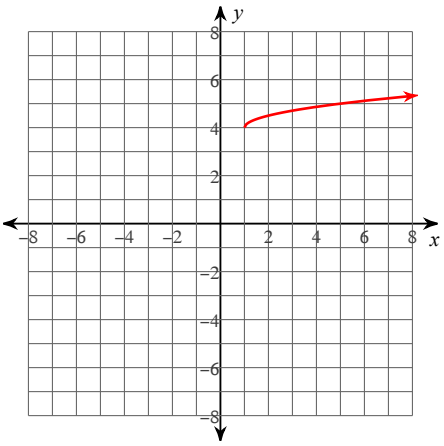
Vertex: $(1, 1)$
Axis of Sym.: $x = 1$

Square Root & Cube Root Functions: Sketch the graph of each function.

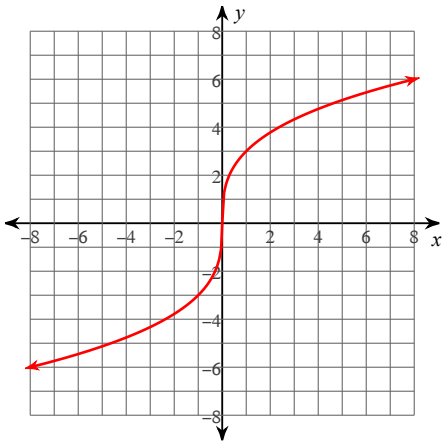
35) $y = \sqrt{x}$



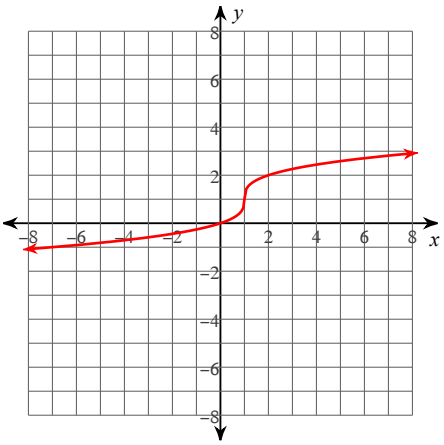
36) $y = \frac{1}{2}\sqrt{x-1} + 4$



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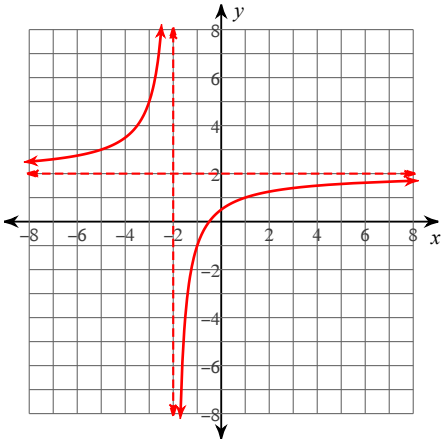


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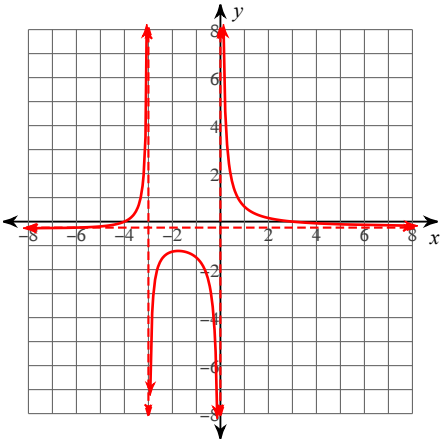


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42) $\log_3 27$

3

Logrithmic Expressions: Expand each logarithm.

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$5\log_9 8 - 10\log_9 5$

44) $\log_2 \dfrac{8^2}{11^6}$

$6 - 6\log_2 11$

Logrithmic Expressions: Condense each expression to a single logarithm.

45) $24\log_8 a + 6\log_8 b$

$\log_8 \left(b^6 a^{24}\right)$

46) $6\log_9 x - 6\log_9 y$

$\log_9 \frac{x^6}{y^6}$

Logrithmic Equations: Solve each equation.

47) $\log\left(p+3\right) = \log\left(4p-3\right)$

$\{2\}$

48) $5\ln\left(x-10\right) = -5$

$\left\{\frac{10e+1}{e}\right\}$

49) $e^{-7v} - 7 = 20$

-0.4708

50) $16^{a+2} = 64$

$\left\{-\frac{1}{2}\right\}$