

I'm not robot!

NAME: _____ DATE: _____

Graphing Quadratic Functions $f(x) = ax^2$ **ANSWER KEY**

Graph the following quadratic functions using a table of values.

$1. f(x) = 2x^2$

x	-4	-3	-2	-1	0	1	2	3	4
f(x)	32	18	8	2	0	2	8	18	32

$2. f(x) = -3x^2$

x	-4	-3	-2	-1	0	1	2	3	4
f(x)	-48	-27	-12	-3	0	-3	-12	-27	-48

$3. f(x) = 0.5x^2$

x	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
f(x)	18	15	12	9	6	3	0	3	6	9	12	15	18

$4. f(x) = \frac{1}{2}x^2$

x	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
f(x)	9	6.25	4	2.25	1	0.5	0	0.5	1	2.25	4	6.25	9

$5. f(x) = 4x^2$

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
f(x)	100	64	36	16	4	0	4	16	36	64	100

$6. f(x) = -0.75x^2$

x	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
f(x)	-27	-22.5	-18	-13.5	-9	-4.5	0	-4.5	-9	-13.5	-18	-22.5	-27

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4-3 Study Guide and Intervention
Solving Quadratic Equations by Factoring

Factored Form To write a quadratic equation with roots p and q , let $(x - p)(x - q) = 0$. Then multiply using FOIL.

Example: Write a quadratic equation in standard form with the given roots.

a. 3, -5
 $(x - p)(x - q) = 0$ Write the pattern.
 $(x - 3)(x - (-5)) = 0$ Replace p with 3, q with -5.
 $(x - 3)(x + 5) = 0$ Simplify.
 $x^2 + 2x - 15 = 0$ Use FOIL.
The equation $x^2 + 2x - 15 = 0$ has roots 3 and -5.

b. $-\frac{7}{8}, \frac{1}{3}$
 $(x - p)(x - q) = 0$
 $\left(x - \left(-\frac{7}{8}\right)\right)\left(x - \frac{1}{3}\right) = 0$
 $\left(x + \frac{7}{8}\right)\left(x - \frac{1}{3}\right) = 0$
 $\frac{(8x + 7)(3x - 1)}{24} = 0$
 $24x^2 + 13x - 7 = 0$
The equation $24x^2 + 13x - 7 = 0$ has roots $-\frac{7}{8}$ and $\frac{1}{3}$.

Exercises

Write a quadratic equation in standard form with the given root(s).

1. 3, -4

2. -8, -2

3. 1, 9

4. -5

5. 10, 7

6. -2, 15

7. $-\frac{1}{3}, 5$

8. $2, \frac{5}{2}$

9. $-3, \frac{3}{4}$

10. $3, \frac{2}{5}$

11. $-\frac{4}{5}, -1$

12. $9, \frac{1}{2}$

13. $\frac{5}{2}, -\frac{2}{3}$

14. $\frac{5}{4}, -\frac{1}{2}$

15. $\frac{3}{2}, \frac{1}{5}$

16. $-\frac{7}{8}, \frac{7}{2}$

17. $\frac{1}{2}, \frac{3}{4}$

18. $\frac{1}{8}, \frac{1}{6}$

Chapter 4 17 Glencoe Algebra 2

Graphing Quadratics Review Worksheet Name _____

Fill in each blank using the word bank.

vertex	minimum	axis of symmetry	x-intercepts
parabola	maximum	zeros/roots	$ax^2 + bx + c$

1. Standard form of a quadratic function is $y =$ _____

2. The shape of a quadratic equation is called a _____

3. _____

4. _____

5. When the vertex is the highest point on the graph, we call that a _____

6. When the vertex is the lowest point on the graph, we call that a _____

7. Our solutions are the _____

8. Solutions to quadratic equations are called _____

Determine whether the quadratic functions have two real roots, one real root, or no real roots. If possible, list the zeros of the function.

9. Number of roots: _____
Zero(s): _____

10. Number of roots: _____
Zero(s): _____

11. Number of roots: _____
Zero(s): _____

NAME: _____ Date: _____ Period: _____

Practice Worksheet: Graphing Quadratic Functions in Intercept Form

For #1-6, label the x-intercepts, axis of symmetry, vertex, y-int., and at least one more point on the graph.

1) $y = \frac{1}{2}(x + 4)(x - 2)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

2) $y = -\frac{1}{2}x(x - 8)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

3) $y = (x + 2)(x - 2)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

4) $y = -\frac{1}{3}(x + 1)(x - 5)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

5) $y = 4(x + 2)(x + 1)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

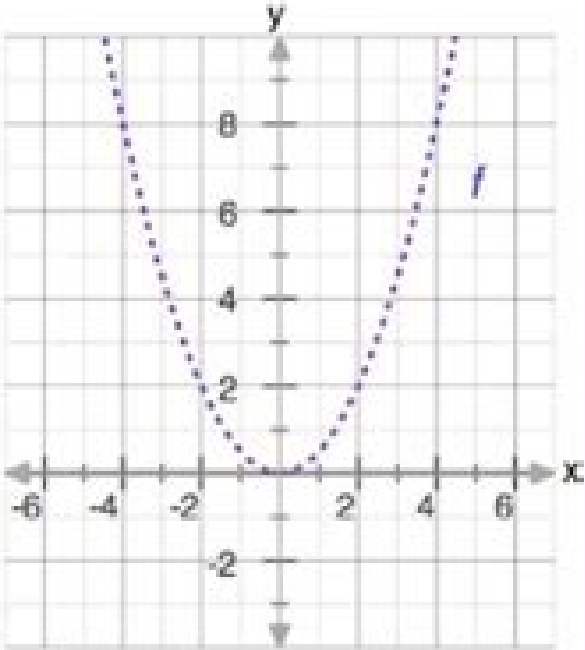
6) $y = -(x - 3)(x - 3)$
a = p = q =
x-intercepts: (____, 0) (____, 0)
Axis of Symmetry is $x =$ _____
Vertex: (____, ____)
Opens up or down?
Slope to pt one unit from vertex:
y-intercept: (0, ____)

1. To sketch the graph of $f(x) = a(x - h)^c + k$.

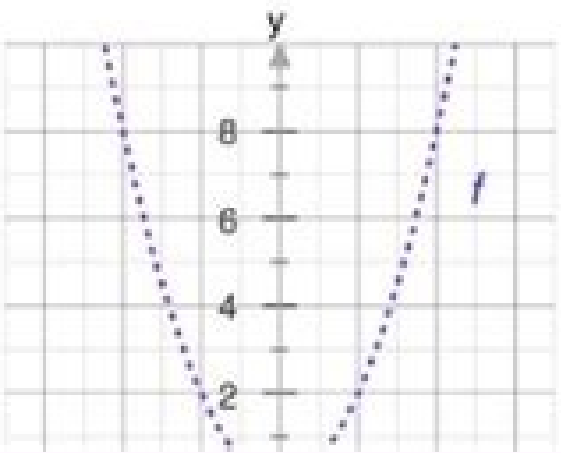
- Sketch the graph of $y = ax^2$
- Translate the graph from step 1 by h units horizontally
- Translate the graph from step 2 by k units vertically.

Example 8

- The graph of $f(x) = 0.5x^2$ is shown.
Sketch the graph of $g(x) = 0.5(x - 3)^2 + 4$.



- The graph of $f(x) = 0.5x^2$ is shown.
Sketch the graph of $g(x) = 0.5(x + 1)^2 - 2$.



I'm sorry. Åa ;tniop muminim a si taht xetrev a sniatnoc drawpu snepo taht alobarap 2An axis of symmetry (also known as a line of symmetry) divide the parable into mirror images. The symmetry line is always a vertical line of the form x = n, where there is a real number, and its axis of symmetry is the vertical line x = 0. The Xintercetti are the points where a parable intersects the X axis. These points are also known as zeros, roots, solutions and sets of solutions. Each square function has two, one, or no x-intercetti. Identify and understand these fundamental concepts relating to square functions, you can use square equations to solve a variety of real life problems with missing variables and a range of possible solutions. What does it mean? Think of the notation of the function as a substitute for you. It reads "F of x." (x) = 2x + 1 is also known as y = 2x + 1. (x) = | x + 5 | It is also known as Y = | x + 5 |. (X) = 5x2 + 3x - 10 is also known as Y = 5x2 + 3x - 10. What do these variations of the notation share? > = 2x + 1 (the value of (x) depends on the value of x.) (B) = 3EB (the value of iate b) depends on the value of b) Learn to use a graph to find specific values of what TO? In other words, when x = 2, what is (x)? Take the line with your finger until you reach the part of the line where x = 2. What is the value of (x)? Answer: 11 What is it? In other words, when x = -3, what is (x)? Take the graph of the absolute value function with your finger until it touch the point where x = -3. What is the value of (x)? Answer: 15 What is it? In other words, when x = -6, what is (x)? Take the parable with your finger until it touches the point to which x = -6. What is the value of (x)? Answer: -18 What (1)? In others When x = 1, what is æ ('x')? track the exponential growth function with your finger until you touch the point where x = 1. What is the value of æ ('x')? reply: 3 What is æ ('90 °)? In other words, when x = 90 °, what is æ ('x')? track the breast function with your finger until you touch the point where x = 90 °. What is the value of æ ('x')? reply: 1 What is æ ('180 °)? in other words, when x = 180 °, what is æ ('x')? track the function of the cosine with the finger until it touches the point where x = 180 °. What is the value of æ ('x')? reply: -1 -1

Dec 14, 2021 · This is shown with the expression 6 x 1 or with parentheses, 6(1). In expanded notation form, the values are joined by plus signs, so 536 is expressed as 5(100) + 3(10) + 6. Download Free PDF. Download Free PDF. Civil Engineering Engineering Reference Manual for the PE Exam Fourteenth Edition. Lukman Hakim. Download Download PDF. Full PDF Package Download Full PDF Package. This Paper: A short snmmy of this paper. 16 Full PDFs related to this paper. Read Paper: Linear Equations in Two Variables. Equations of degree one and having two variables are known as linear equations in two variables. It is of the form. ax +by +c = 0, where a, b and c are real numbers, and both a and b not equal to zero. Equations of the form ax+by = 0; where a and b are real numbers, and a,b ≠ 0, is also linear equations in two variable. Test on algebra 2 problems, solving quadratic equations, rational inequalities, factor polynomials, simplify rational expressions, graph polynomial, trigonometric, exponential, logarithmic and rational functions. Hence, the required quadratic polynomial is x 2-10x+7. Example 2: Find the zeroes of the quadratic polynomial 6x 2-3-7x. Also, verify the relationship between the zeroes and the coefficient of a polynomial. Solution: Given quadratic polynomial: 6x 2-3-7x. Let P(x) = 6x 2-3-7x. We know that zero of a polynomial is a value of x, when P(x) = 0. Mar 22, 2022 · Use bordered determinants to check the following functions for quasiconcavity and quasiconvexity: Z= x^0.5y^0.5 (x, y> 0) Z= -(x+ 1)^2 - (y+ 2)^2 (X, y> 0)?... You have been hired by the government to determine how much less alcohol per capita will be consumed if taxes are increased by \$2. Nov 08, 2014 · 1. Make your own BINGO card. Draw a 5 x 5 grid, and number the squares in random fashion from 1 to 24 (assuming a "Free Space") or 1 to 25. 2. There must be a "Bingo caller" who will pick a random number from 1 to 24 by using a spin-ner, picking numbers from a bag, or generating a random number from a graphing calculator. 3. This book was written for a sequence of courses on the theory and application of numerical approximation techniques. It is designed primarily for junior-level mathematics, science, and engineering majors who have completed at least the standard Mar 11, 2022 · Graphing Cubic Functions GRAPHING CUBIC FUNCTIONS Graph the following cubic functions. Complete the table. Identify the center, transformations, domain, and range. 1 f (x) =x f (x) =x+3 X y Domain &am... A femto second is equal to 1 x 10-15 seconds. That is a very, very, very short amount of time! Scientists have recently invented 'femto ...