Name



Quadratic Equations and Vertex Form - Intro

1 What form is this quadratic equation in?

$$y = -3x^2 - x + 4$$

A Standard Form

B Factored Form

C Vertex Form

2 What form is this quadratic equation in?

$$y = a(x - R_1)(x - R_2)$$

A Factored Form

B Vertex Form

C Standard Form

3 Which quadratic equation is in this form?

Standard Form

A $y = -3(x - 4)(x - 2)$

B $y = -3(x - 3)^2 + 2$

C $y = -3x^2 + x - 1$

4 Which quadratic equation is in this form?

Vertex Form

A $y = ax^2 + bx + c$

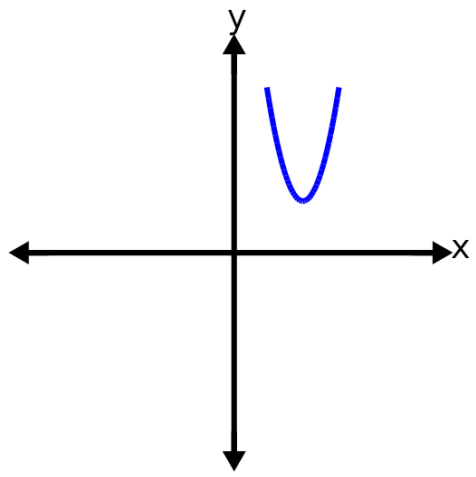
B $y = a(x - R_1)(x - R_2)$

C $y = a(x - h)^2 + k$

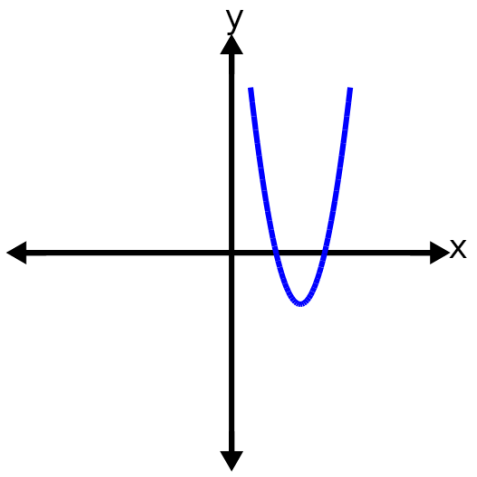
5 Which graph shows this a quadratic function with this min/max of y?

Min: 3

A



B



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6 What is the vertex of a function with this min/max of y?

Max: 2

A (1, -2)	B (1, 2)
C (-1, -2)	

7 What is the range of a function with this min/max of y?

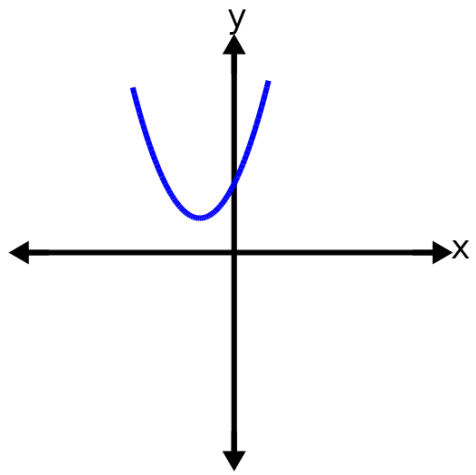
Min: -2

A $[-2, \infty)$	B $[1.5, 1]$
C $[1, \infty)$	D $(-\infty, 1]$

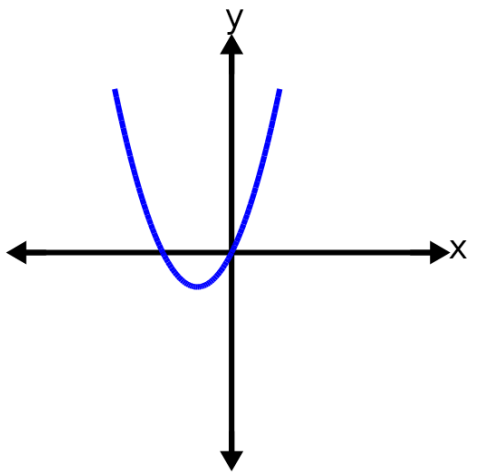
8 Which graph shows this a quadratic function with this vertex?

(-2, -2), opening up

A



B



9 What is the min/max y-value of a function with this vertex?

(1, 2), opening down

A Min: -1	B Max: 2
C Min: 1	D Max: 1

10 What function would have this min/max of y?

Min: 2

A	$y = -1(x+2)^2 + 2$
B	$y = (x+2)^2 - 2$
C	$y = (x+2)^2 + 2$

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11 What function would have this vertex?

(2, -4), opening up

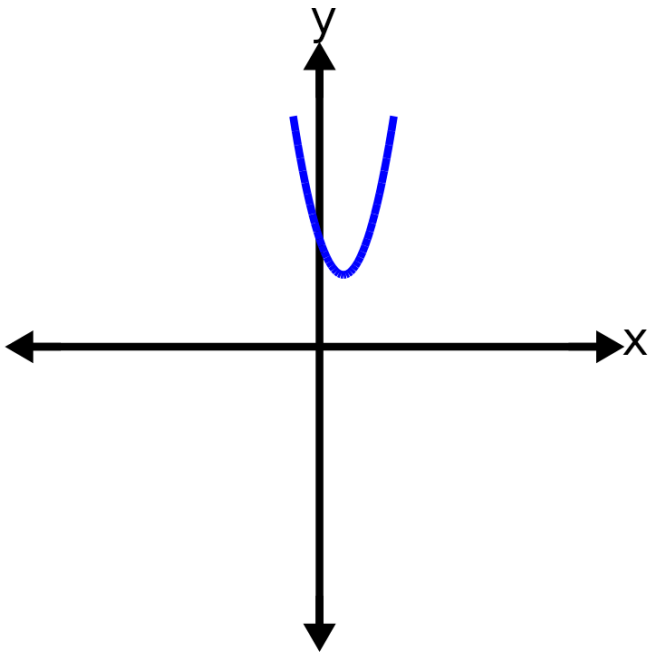
A	$y = -1.5(x+2)^2 - 4$
B	$y = 1.5(x-2)^2 - 4$
C	$y = -1.5(x-2)^2 - 4$

12 What is the range of a function with this vertex?

(-2, -3), opening up

A	$(-\infty, -2]$	B	$(-\infty, 0.5]$
C	$[-2, \infty)$	D	$[-3, \infty)$

13 What would the min/max y-value of this function be?



A	Min: 3
B	Max: -3
C	Min: -3
D	Max: 3

14 What would the vertex of this function be?

$$y = -0.5(x-2)^2 - 3$$

A	(-0.5, 2)	B	(-2, -3)
C	(2, -3)	D	(-3, 2)
E	(-0.5, -3)	F	(2, 3)

15 What would the min/max y-value of this function be?

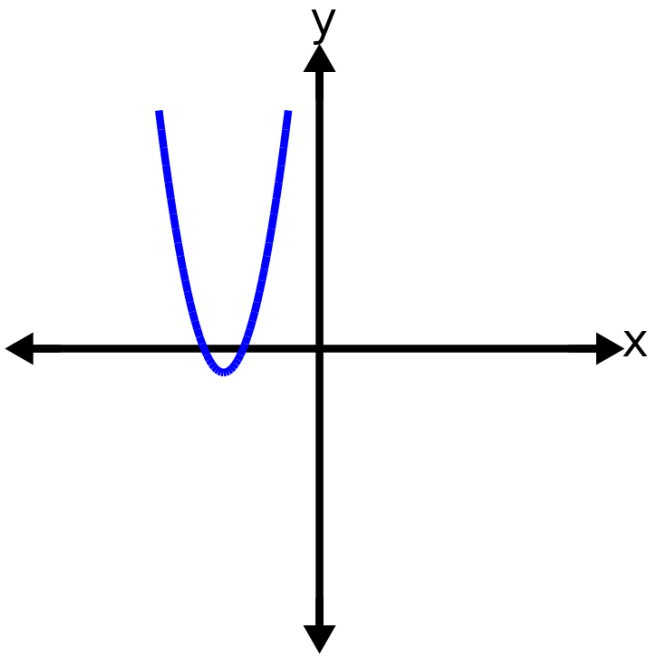
$$y = -0.5(x+4)^2 + 3$$

A	Min: -4	B	Max: -0.5
C	Max: -4	D	Max: 3

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Quadratic Equations and Vertex Form - Intro

16 What would the range of this function be?



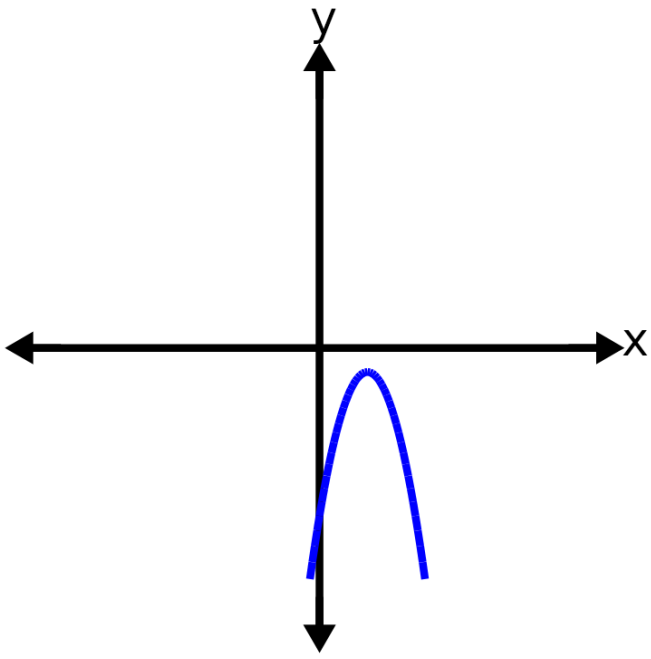
A $(-\infty, -1]$

B $(-\infty, 1]$

C $[-1, \infty)$

D $[1, \infty)$

17 What could the vertex of this function be?



A (2, 1)

B (-2, 1)

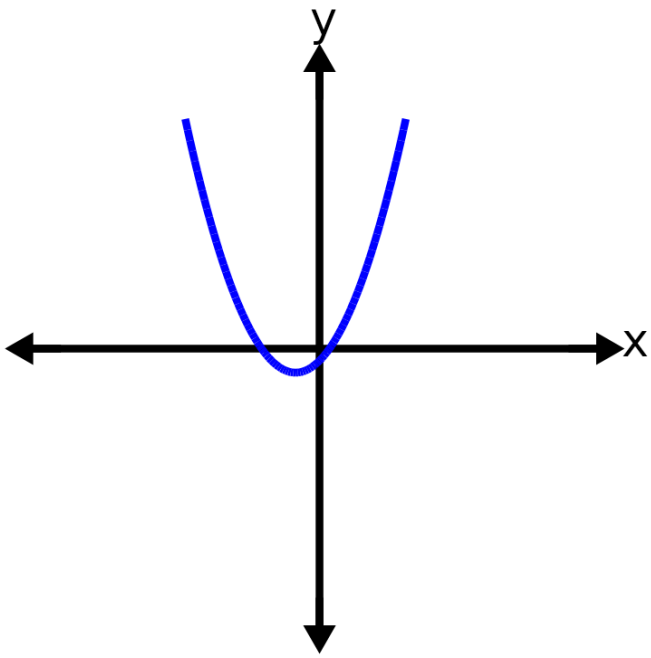
C (2, -1)

D (-2, -1)

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18 Which quadratic function could create this graph?



A

$$y = -0.5(x+1)^2 - 1$$

B

$$y = 0.5(x+1)^2 - 1$$

C

$$y = 0.5(x-1)^2 - 1$$

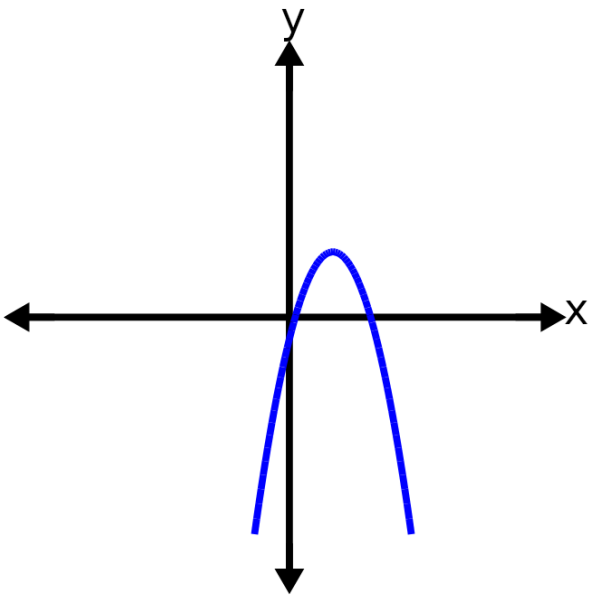
D

$$y = 0.5(x+1)^2 + 1$$

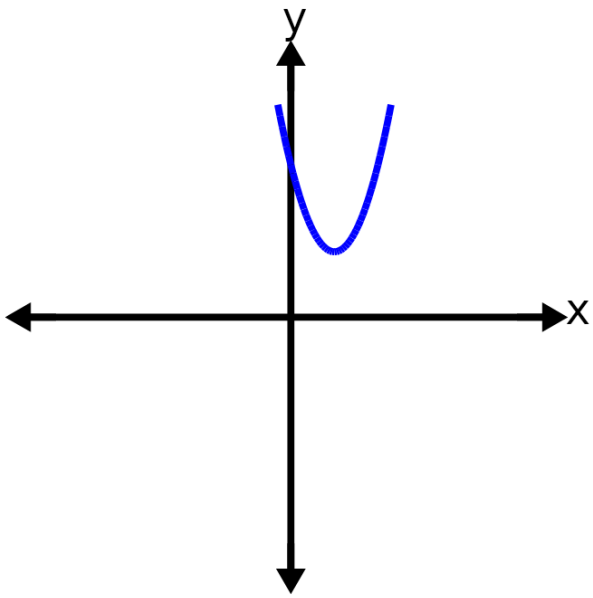
19 Which graph shows this quadratic function?

$$y = (x-2)^2 + 3$$

A



B



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Quadratic Equations and Vertex Form - Intro

20 What would the range of this function be?

$$y = -1(x+4)^2 + 4$$

A $(-\infty, 4]$

B $[-1, -4]$

C $(-\infty, -1]$

D $[4, -4]$

21 What function would have this range?

$$(-\infty, -2]$$

A $y = -0.5(x-4)^2 + 2$

B $y = 0.5(x-4)^2 - 2$

C $y = -0.5(x-4)^2 - 2$

D $y = 0.5(x-4)^2 + 2$

22 What could be the vertex of a function with this range?

$$(-\infty, -1]$$

A (-1, 1)

B (-1, -1)

C (1, 1)

23 What is the min/max y-value of a function with this range?

$$(-\infty, -4]$$

A Max: -1

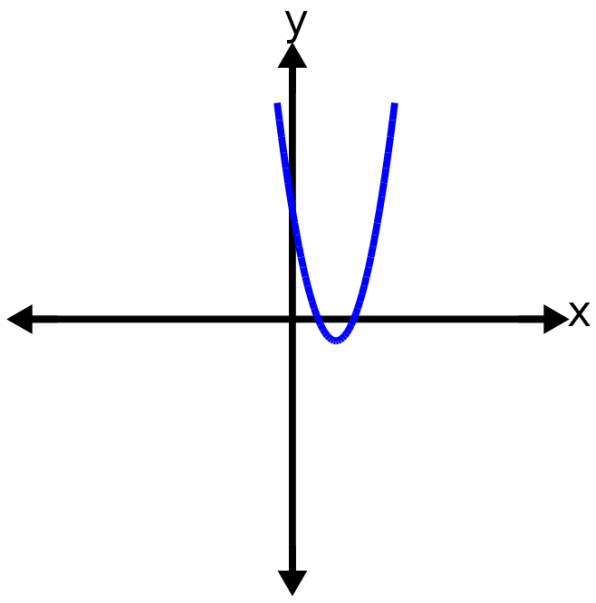
B Max: -4

C Max: -0.5

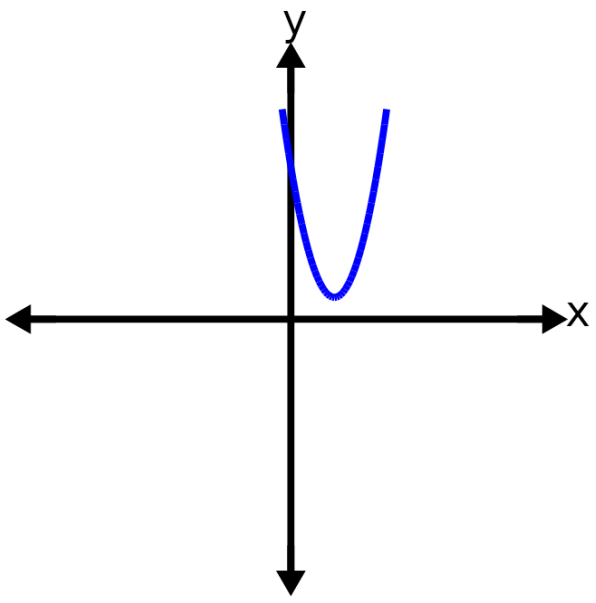
24 Which graph shows this a quadratic function with this range?

$$[-1, \infty)$$

A



B



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Quadratic Equations and Vertex Form - Intro

25 Complete the square to be ready to factor this polynomial

$$y = x^2 - 2x + 3$$

A $y = (x^2 - 2x + 1) - 1 + 3$

B $y = (x^2 - 2x + 5) - 1 + 3$

C $y = (x^2 - 2x + 1) + 4 + 3$

D $y = (x^2 - 2x + 1) + 1 + 3$

E $y = (x^2 - 6x + 1) - 1 + 3$

26 Remove the leading coefficient from the x terms to be ready to complete the square

$$y = -1x^2 - 6x - 12$$

A $y = -1(x^2 + 6x) - 12$

B $y = -1(x^2 - 6x) - 12$

C $y = -1(x^2 + 11x) - 12$

D $y = -1(x^2 + 6x) - 13$

E $y = -1(x^2 + 6x) - 10$

27 Remove the leading coefficient from the x terms to be ready to complete the square

$$y = 4x^2 - 32x + 67$$

A $y = 4(x^2 - 8x) + 68$

B $y = 4(x^2 - 8x) + 67$

C $y = 4(x^2 + 8x) + 67$

D $y = 4(x^2 - 3x) + 67$

E $y = 4(x^2 + 32x) + 67$

28 Complete the square to be ready to factor this polynomial

$$y = -1x^2 - 8x - 13$$

A $y = -1(x^2 + 8x + 16) + 16 - 13$

B $y = -1(x^2 + 8x + 16) + 13 - 13$

C $y = -1(x^2 + 8x + 16) - 16 - 13$

D $y = -1(x^2 + 10x + 16) + 16 - 13$

E $y = -1(x^2 + 12x + 16) + 16 - 13$

29 Complete the square to be ready to factor this polynomial

$$y = 2x^2 - 16x + 29$$

A $y = 2(x^2 - 8x + 16) - 34 + 29$

B $y = 2(x^2 - 8x + 16) + 32 + 29$

C $y = 2(x^2 - 8x + 15) - 32 + 29$

D $y = 2(x^2 - 8x + 16) - 32 + 29$

E $y = 2(x^2 - 4x + 16) - 32 + 29$

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Quadratic Equations and Vertex Form - Intro

30 Remove the leading coefficient from the x terms to be ready to complete the square

$$y = -2x^2 + 16x - 30$$

A $y = -2(x^2 - 9x) - 30$

B $y = -2(x^2 - 8x) - 31$

C $y = -2(x^2 + 8x) - 30$

D $y = -2(x^2 - 16x) - 30$

E $y = -2(x^2 - 8x) - 30$

31 Complete the square to factor this polynomial

$$y = x^2 - 4x + 6$$

A $y = -1(x - 2)^2 - 2$

B $y = (x - 2)^2 + 2$

C $y = (x + 2)^2 - 2$

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

32 Complete the square to be ready to factor this polynomial

$$y = -5x^2 - 40x - 79$$

A $y = -5(x^2 + 8x + 16) + 80 - 79$

B $y = -5(x^2 + 8x + 15) + 80 - 79$

C $y = -5(x^2 + 12x + 16) + 80 - 79$

D $y = -5(x^2 + 8x + 16) - 80 - 79$

E $y = -5(x^2 + 8x + 17) + 80 - 79$

33 Solve the square polynomial to finish factoring

$$y = (x^2 + 6x + 9) - 9 + 11$$

A $y = (x + 3)^2 - 2$

B $y = -1(x + 3)^2 + 2$

C $y = (x + 3)^2 + 2$

D $y = (x - 3)^2 + 2$

34 Solve the square polynomial to finish factoring

$$y = -1(x^2 + 4x + 4) + 4 - 6$$

A $y = -1(x - 2)^2 - 2$

B $y = (x - 2)^2 - 2$

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

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

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Quadratic Equations and Vertex Form - Intro

35 Solve the square polynomial to finish factoring

$$y = 5(x^2 + 2x + 1) - 5 + 1$$

A	$y = -5(x+1)^2 + 4$
B	$y = -5(x-1)^2 + 4$
C	$y = 5(x-1)^2 - 4$
D	$y = 5(x+1)^2 - 4$

36 Solve the square polynomial to finish factoring

$$y = -2(x^2 - 4x + 4) + 8 - 5$$

A	$y = -2(x+2)^2 + 3$
B	$y = -2(x-2)^2 + 3$
C	$y = -2(x-2)^2 - 3$
D	$y = 2(x+2)^2 - 3$

37 Complete the square to factor this polynomial

$$y = -1x^2 - 6x - 11$$

A	$y = (x+3)^2 - 2$
B	$y = -1(x-3)^2 + 2$
C	$y = -1(x+3)^2 - 2$
D	$y = (x-3)^2 - 2$

38 Complete the square to factor this polynomial

$$y = 5x^2 + 40x + 77$$

A	$y = 5(x-4)^2 - 3$
B	$y = 5(x+4)^2 + 3$
C	$y = -5(x+4)^2 + 3$
D	$y = 5(x+4)^2 - 3$

39 Complete the square to factor this polynomial

$$y = -2x^2 + 12x - 14$$

A	$y = -2(x-3)^2 + 4$
B	$y = -2(x+3)^2 - 4$
C	$y = -2(x+3)^2 + 4$
D	$y = -2(x-3)^2 - 4$