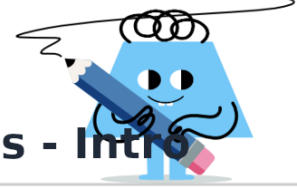
Name



Quadratic Formula and Discriminants - Intro

1 What is the purpose of this?

Discriminant

A Find the number and type of roots (solutions)

B Find the vertex (turning point) of the graph

C Find the roots (solutions) of the equation

2 What formula would help you find this?

Find the vertex (turning point) of the graph

A Quadratic Formula

B X Coordinate of Vertex

C Discriminant

3 What is the equation for this?

Discriminant

A $$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

B $$\Delta = b^2 - 4ac$$

C $$x = \frac{-b}{2a}$$

4 What formula would help you find this?

Find the number and type of roots (solutions)

A $$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

B $$x = \frac{-b}{2a}$$

C $$\Delta = b^2 - 4ac$$

5 What is the name of this formula?

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

A X Coordinate of Vertex

B Discriminant

C Quadratic Formula

6 What is the purpose of this formula?

$$\Delta = b^2 - 4ac$$

A Find the roots (solutions) of the equation

B Find the number and type of roots (solutions)

C Find the vertex (turning point) of the graph

Name

Quadratic Formula and Discriminants - Intro

7 Which discriminant would be from a quadratic function with these roots?

2 complex roots

A $\Delta = 8$

B $\Delta = 0$

C $\Delta = -8$

8 Does this quadratic equation have one or more real roots?

$$y = 1.5x^2 + 3x - 4$$

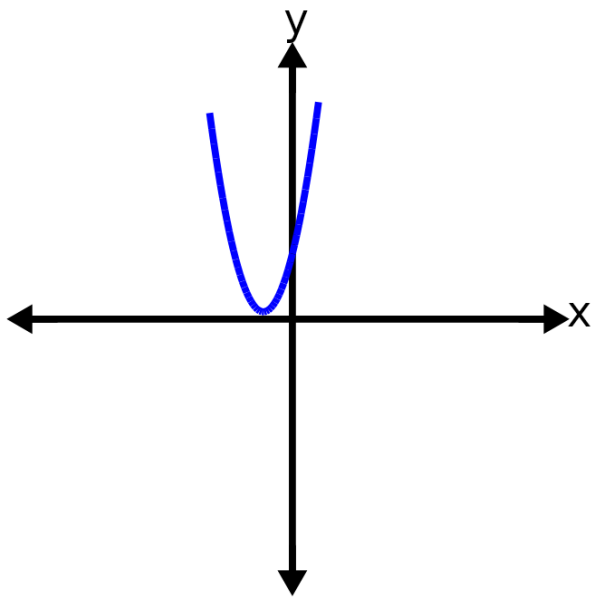
A Yes

B No

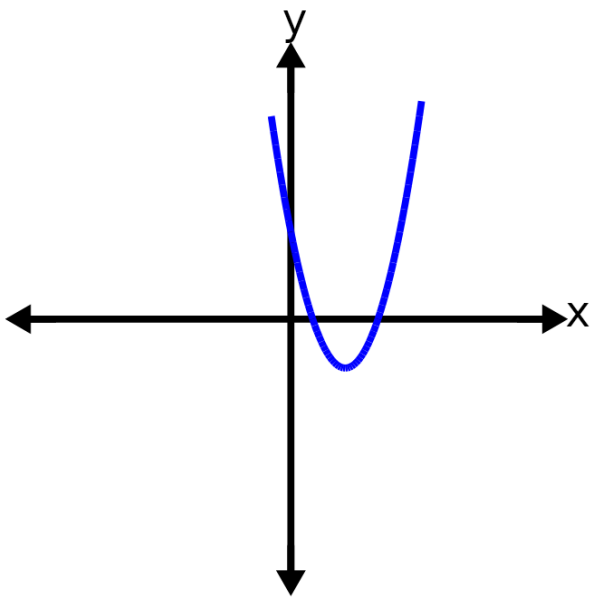
9 Which graph shows this quadratic equation?

$$y = x^2 - 5x + 4$$

A



B



10 What type of roots would this quadratic equation have?

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

A 1 real root

B 2 real roots

C 2 complex roots

11 Would this quadratic equation have a discriminant greater, less than, or equal to zero?

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

A $\Delta = 0$

B $\Delta > 0$

C $\Delta < 0$

Name



Quadratic Formula and Discriminants - Intro

12 What is the discriminant of this quadratic equation?

$$y = -1.5x^2 - 4x + 3$$

A $\Delta = 34$

B $\Delta = 0$

C $\Delta = -34$

13 What are the values of a, b, and c in the quadratic formula, given this equation and the standard form?

A $a = 1$, $b = 3$, $c = 4$

B $a = 4$, $b = 3$, $c = 1$

C $a = 3$, $b = 4$, $c = 1$

14 Which quadratic equation has these values of a, b, and c from the standard form?

A $y = -x^2 + 5x + 3$

B $y = 3x^2 - x + 5$

C $y = 5x^2 - x + 3$

15 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A $x = \frac{-3 \pm \sqrt{34}}{4}$

B $x = \frac{-3 \pm \sqrt{33}}{4}$

C $x = \frac{-3 \pm \sqrt{33}}{5}$

D $x = \frac{-3 \pm \sqrt{37}}{4}$

16 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A $x = -1$, $x = 4$

B $x = -6$, $x = 0$

C $x = 3$, $x = 1$

D $x = 0$, $x = 1$

17 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A $x = -0.33$, $x = 1$

B $x = 4.07$, $x = -4.32$

C $x = -1.17$, $x = -2.41$

D $x = 3.59$, $x = -3.05$

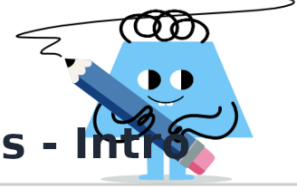
18 What is the discriminant of this quadratic equation (use the discriminant formula)?

A $\Delta = 7$

B $\Delta = -7$

C $\Delta = 0$

Name



Quadratic Formula and Discriminants - Intro

19 What is the X-coordinate of the vertex of this quadratic equation (use the vertex formula)?

A

x = 0.5

B

x = 1

20 What are the values of a, b, and c in the quadratic formula, given this equation and the standard form?

A

$$a = -1$$
$$b = -2$$
$$c = -4$$

B

$$a = -4$$
$$b = -2$$
$$c = -1$$

C

$$a = -2$$
$$b = -4$$
$$c = -1$$

21 What are the values of a, b, and c in the quadratic formula, given this equation?

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

A

$$a = -4$$
$$b = 2$$
$$c = -3$$

B

$$a = -3$$
$$b = 2$$
$$c = -4$$

C

$$a = 2$$
$$b = -4$$
$$c = -3$$

22 Which quadratic equation has these values of a, b, and c from the standard form?

A

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

B

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

23 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A

$$x = \frac{4 \pm \sqrt{80}}{-9}$$

B

$$x = \frac{4 \pm \sqrt{76}}{-8}$$

C

$$x = \frac{4 \pm \sqrt{77}}{-8}$$

D

$$x = \frac{4 \pm \sqrt{80}}{-8}$$

24 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A

$$x = 1$$
$$x = 2$$

B

$$x = -2$$
$$x = 0$$

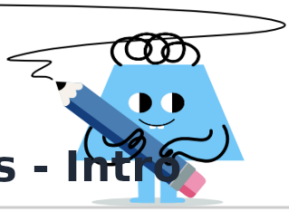
C

$$x = -3$$
$$x = -2$$

D

$$x = 1$$
$$x = -2$$

Name



Quadratic Formula and Discriminants - Intro

25 What roots (solutions) would this quadratic equation have?

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

A
$x = 0$
$x = -4$

B
$x = -5$
$x = 3$

C
$x = 1$
$x = -4$

D
$x = 1$
$x = -1$

26 What roots (solutions) would this quadratic equation have (use the quadratic formula)?

A
$x = 2.21$
$x = -1.92$

B
$x = 0.84$
$x = -0.24$

C
$x = -3.68$
$x = 3.54$

D
$x = 0.72$
$x = -1.1$

27 What is the discriminant of this quadratic equation (use the discriminant formula)?

A
$\Delta = 0$

B
$\Delta = 36$

C
$\Delta = -36$

28 What roots (solutions) would this quadratic equation have?

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

A
$x = \frac{1 \pm \sqrt{36}}{4}$

B
$x = \frac{4 \pm \sqrt{41}}{4}$

C
$x = \frac{1 \pm \sqrt{41}}{4}$

D
$x = \frac{-1 \pm \sqrt{41}}{4}$

29 What is the X-coordinate of the vertex of this quadratic equation (use the vertex formula)?

A
x = -0.42

B
x = 0.08

C
x = 0.33

30 What is the discriminant of this quadratic equation?

$$y = 5x^2 + 2x + 4$$

A
$\Delta = 0$

B
$\Delta = 76$

C
$\Delta = -76$

31 What roots (solutions) would this quadratic equation have?

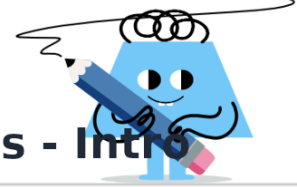
$$y = -4x^2 + 1 + 2x$$

A
$x = \frac{-2 \pm \sqrt{18}}{-8}$

B
$x = \frac{-3 \pm \sqrt{20}}{-8}$

C
$x = \frac{-2 \pm \sqrt{20}}{-8}$

Name



Quadratic Formula and Discriminants - Intro

32 What roots (solutions) would this quadratic equation have?

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

A

$x = 2$
$x = 1$

B

$x = -3.45$
$x = 2.18$

C

$x = 1.98$
$x = -0.49$

D

$x = -3.43$
$x = -3.26$

33 What are the values of a, b, and c in the quadratic formula, given this equation?

$$y = x - 5x^2 - 3$$

A

$a = -5$
$b = 1$
$c = -3$

B

$a = 1$
$b = -5$
$c = -3$

C

$a = -3$
$b = 1$
$c = -5$

34 What roots (solutions) would this quadratic equation have?

$$y = x^2 - x$$

A

$x = 2$
$x = -5$

B

$x = 1$
$x = 0$

C

$x = 3$
$x = -6$

D

$x = -3$
$x = 1$

35 What roots (solutions) would this quadratic equation have?

$$y = -x^2 - 1 - 4x$$

A

$x = -3.73$
$x = -0.27$

B

$x = -4.58$
$x = -0.83$

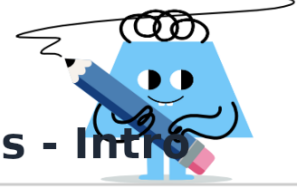
C

$x = -5.53$
$x = 3.64$

D

$x = -1.74$
$x = 4.84$

Name



Quadratic Formula and Discriminants - Intro

36 What is the discriminant of this quadratic equation?

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

A $\Delta = 8$

B $\Delta = 0$

C $\Delta = -8$

37 What is the X-coordinate of the vertex of this quadratic equation?

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

A x = 0.5

B x = 0.25

C x = 1.5

38 What is the X-coordinate of the vertex of this quadratic equation?

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

A x = 1.5

B x = 0.5

C x = 1.25

39 What is the equation for this?

Quadratic Formula

A $x = \frac{b^2 \pm \sqrt{b^2 - 4ac}}{2a}$

B $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

40 What formula would help you find this?

Find the roots (solutions) of the equation

A $x = \frac{-b \pm \sqrt{b^2 - 2a}}{4ac}$

B $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

C $x = \frac{b^2 \pm \sqrt[3]{b^2 + 4ac}}{2a}$

41 With this discriminant, would a quadratic function have one or more real roots?

$$\Delta > 0$$

A No

B Yes

42 What type of roots would a quadratic function with this discriminant have?

$$\Delta < 0$$

A 1 real root

B 2 complex roots

C 2 real roots

43 With this discriminant, would a quadratic function have one or more real roots?

$$\Delta = 20$$

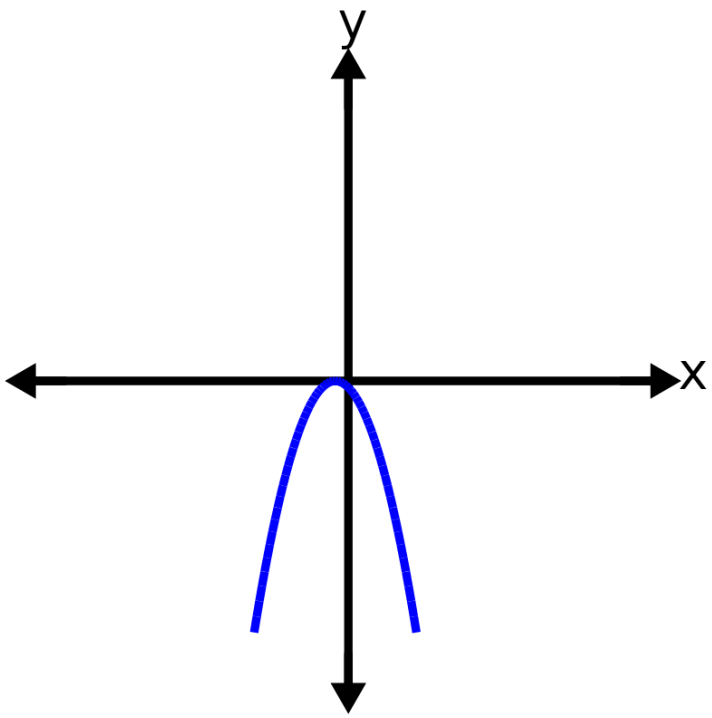
A Yes

B No

Name

Quadratic Formula and Discriminants - Intro

44 Does this quadratic function have one or more real roots?



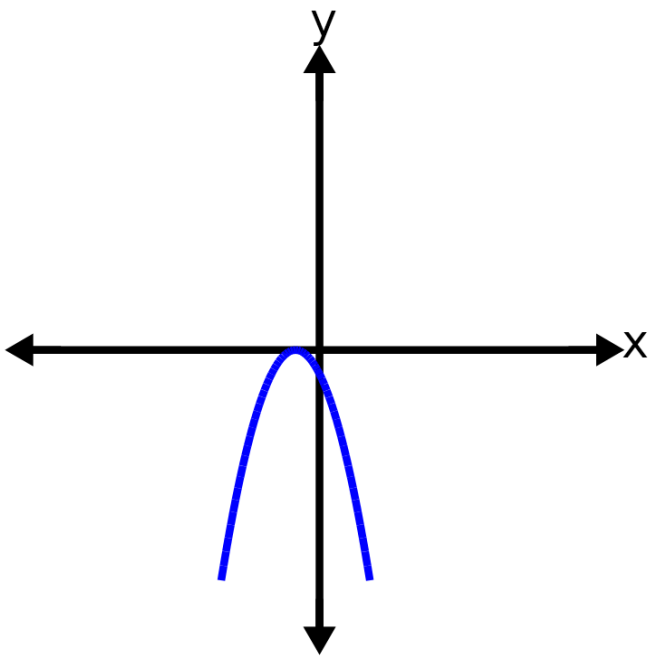
A

Yes

B

No

45 What type of roots would this quadratic function have?



A

1 real root

B

2 complex roots

C

2 real roots

Name

Quadratic Formula and Discriminants - Intro

46 Which roots would be valid for a quadratic function with this discriminant?

$$\Delta > 0$$

A

$$x = \frac{8.1 \pm i\sqrt{2.7}}{5.8}$$

B

$$x = -0.73$$
$$x = 2.73$$

C

$$x = 9.6$$

47 What type of roots would a quadratic function with this discriminant have?

$$\Delta = 0$$

A 2 real roots

B 2 complex roots

C 1 real root

48 If a quadratic function has real roots, what is true about its discriminant?

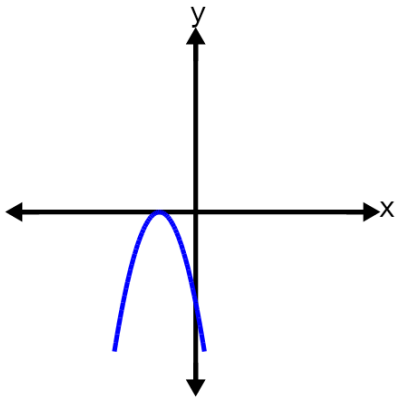
2 real roots

A $\Delta > 0$

B $\Delta = 0$

C $\Delta < 0$

49 Which root(s) would be valid for this quadratic function?



A

$$x = \frac{6.5 \pm i\sqrt{1.4}}{5.1}$$

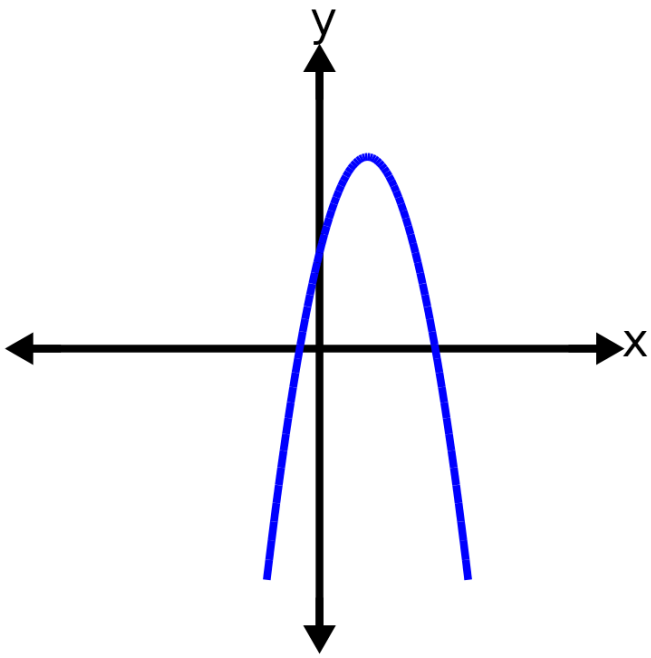
B

$$x = -2.5$$

Name

Quadratic Formula and Discriminants - Intro

50 Would this quadratic function have a discriminant greater, less than, or equal to zero?



A

$\Delta = 0$

B

$\Delta > 0$

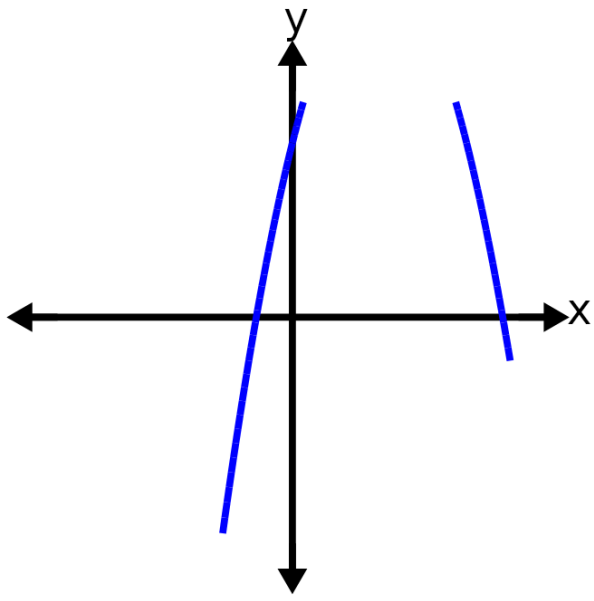
C

$\Delta < 0$

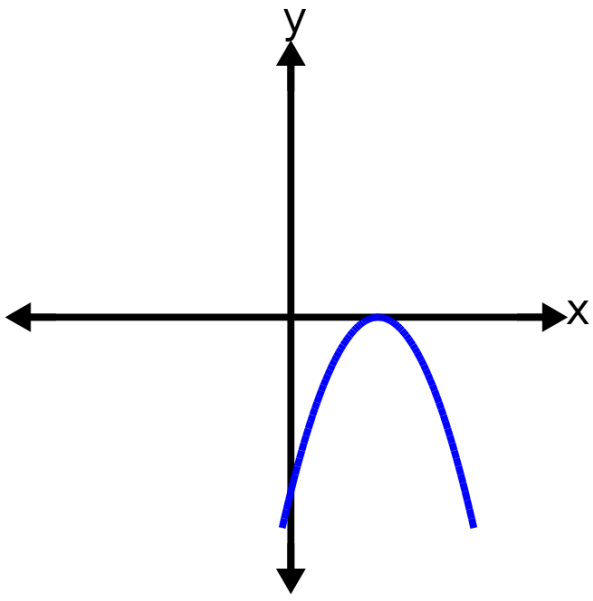
51 Which graph shows this a quadratic function with this discriminant?

$$\Delta = 0$$

A



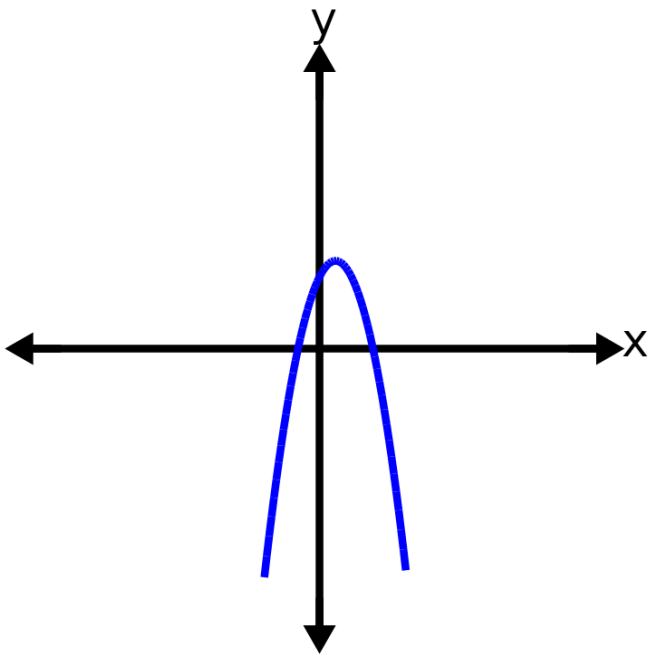
B



Name

Quadratic Formula and Discriminants - Intro

52 Which discriminant would be valid for this quadratic function?



A

$\Delta = 22$

B

$\Delta = 0$

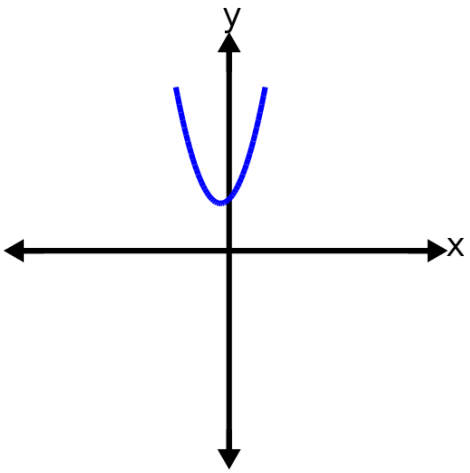
C

$\Delta = -22$

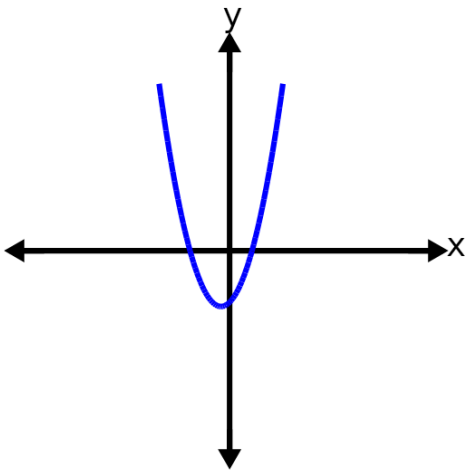
53 Which graph shows this a quadratic function that does NOT have real roots?

2 complex roots

A



B



Name

Quadratic Formula and Discriminants - Intro

54 Which roots would be examples of having real roots?

2 real roots

A

$$x = 6.87$$
$$x = -0.87$$

B

$$x = \frac{1.1 \pm i\sqrt{4.4}}{2.2}$$

55 Which roots would be valid for a quadratic function with this discriminant?

$$\Delta = -7$$

A

$$x = \frac{-1 \pm i\sqrt{7}}{1}$$

B

$$x = 7.4$$

C

$$x = 9.8$$
$$x = 7.2$$

56 Which discriminant would be from a quadratic function that has real roots?

2 real roots

A $\Delta = 0$

B $\Delta = -12$

C $\Delta = 12$

57 If a quadratic function has these roots, what is true about its discriminant?

2 real roots

A $\Delta > 0$

B $\Delta = 0$

C $\Delta < 0$

58 Which roots would be valid examples of this?

1 real root

A

$$x = 3$$

B

$$x = 6.2$$
$$x = 9.4$$