

SOLVING QUADRATIC EQUATIONS IN THE CALCULATOR

Not every quadratic function has “pretty” x-intercepts that can be found by hand. But, *all* quadratic functions can be graphed and analyzed in the calculator.

To GRAPH

- 1) Press **Y=** and input equation into Y1
- 2) Press **GRAPH**

To find the X-INTERCEPTS,

or _____,

or _____,

or _____

- 1) Input function into Y1
- 2) Input 0 into Y2
- 3) Press **2nd TRACE 5**
- 4) Press **ENTER ENTER ENTER**
- 5) To find another x-intercept, repeat step 3.
- 6) Press **ENTER** Use **←** or **→** to move closer to the other x-intercept. Press **ENTER ENTER**

...this step graphs the line $y=0$, also known as the x-axis!

Answer the following. Round answers to the nearest tenth, if necessary.

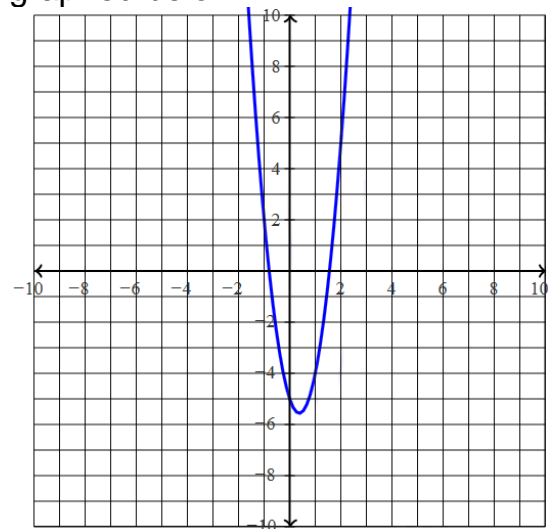
1. What are the solutions to $x^2 + 4x - 5 = 0$?

2. What are the x-intercepts of function g if $g(x) = -2x^2 + x + 7$?

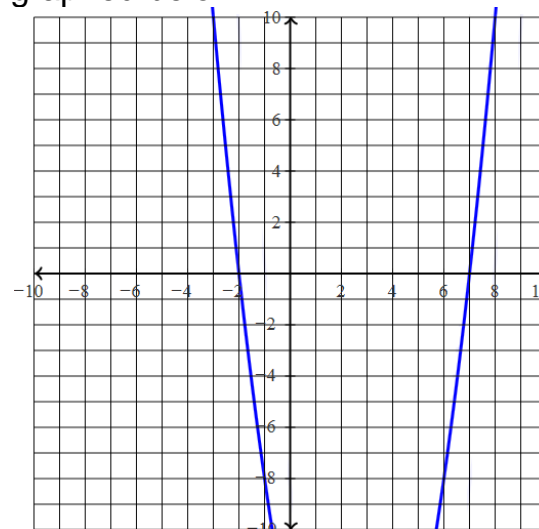
3. Find the solutions that satisfy $x^2 + 7x = -10$.

4. Find the zeros of $f(x) = 2x^2 + 3x - 7$.

5. Find the roots of $h(x) = 4x^2 - 3x - 5$ graphed below.



6. Find the x-intercepts of $k(x) = x^2 - 5x - 14$ graphed below.



7. What is the zero of $r(x) = \frac{-5}{3}x + 15$?

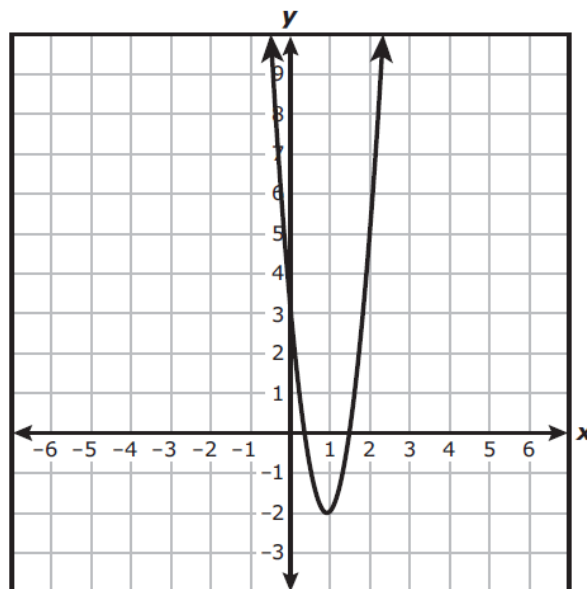
- A. 15
- B. -15
- C. 9
- D. -9

8. Which statement about the quadratic equation below is true?

$$-4.5x^2 + 72 = 0$$

- A. The equation has $x = 4$ as its only solution.
- B. The equation has no real solutions.
- C. The equation has $x = 4$ and $x = -4$ as its only solutions.
- D. The equation has an infinite number of solutions.

9. A graph of $f(x) = 6x^2 - 11x + 3$ is shown on the grid.



What are the roots of f ?

- A. 3
- B. 2 and 9
- C. $\frac{11}{12}$
- D. $\frac{1}{3}$ and $\frac{3}{2}$