1. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$15x^2 + 2x - 24 = 0$$

A. $x_1 \in [-1.89, -1.28]$ and $x_2 \in [1.15, 1.23]$

B. $x_1 \in [-2.76, -2.55]$ and $x_2 \in [0.53, 0.88]$

C. $x_1 \in [-0.98, 0.53]$ and $x_2 \in [2.28, 2.71]$

D. $x_1 \in [-21.62, -18.51]$ and $x_2 \in [17.82, 18.16]$

E. $x_1 \in [-4.04, -3.9]$ and $x_2 \in [0, 0.41]$

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2. Solve the quadratic equation below. Then, choose the intervals that the solutions x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$25x^2 + 75x + 54 = 0$$

A. $x_1 \in [-2.5, -1.77]$ and $x_2 \in [-1.37, -1.07]$

B. $x_1 \in [-9.43, -8.89]$ and $x_2 \in [-0.25, -0.24]$

C. $x_1 \in [-6.31, -3.63]$ and $x_2 \in [-0.47, -0.39]$

D. $x_1 \in [-4.09, -3.14]$ and $x_2 \in [-0.72, -0.49]$

E. $x_1 \in [-45.41, -44.02]$ and $x_2 \in [-30.12, -29.73]$

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3. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$36x^2 + 53x + 10$$

A. $a \in [25.3, 29.5]$, $b \in [-2, 6]$, $c \in [-0.6, 2]$, and $d \in [-3, 9]$

B. $a \in [8, 9.6]$, $b \in [-2, 6]$, $c \in [2.1, 4.8]$, and $d \in [-3, 9]$

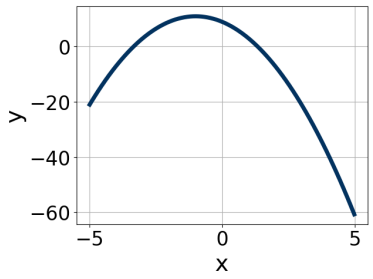
C. $a \in [-0.4, 1.4]$, $b \in [7, 10]$, $c \in [-0.6, 2]$, and $d \in [43, 50]$

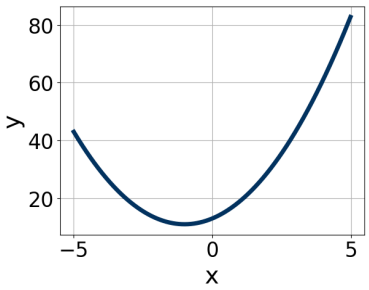
D. $a \in [3.4, 4.7]$, $b \in [-2, 6]$, $c \in [7.6, 10.2]$, and $d \in [-3, 9]$

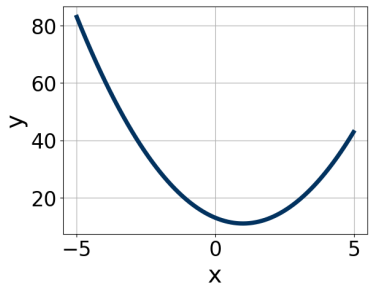
E. None of the above.

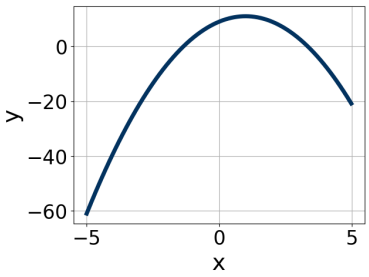
4. Graph the equation below.

$$f(x) = -(x-1)^2 + 11$$

A.


C.


B.


D.


E. None of the above.

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5. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$13x^2 + 7x - 7 = 0$$

A. $x_1 \in [-20.95, -20.13]$ and $x_2 \in [19.3, 21.3]$

B. $x_1 \in [-13.84, -13.58]$ and $x_2 \in [6.5, 8.1]$

C. $x_1 \in [-0.6, -0.26]$ and $x_2 \in [0.6, 3.2]$

D. $x_1 \in [-1.11, -0.73]$ and $x_2 \in [-0.5, 0.8]$

E. There are no Real solutions.

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6. Solve the quadratic equation below. Then, choose the intervals that the solutions belong to, with $x_1 \leq x_2$ (if they exist).

$$-12x^2 - 13x - 2 = 0$$

A. $x_1 \in [-0.4, 0.4]$ and $x_2 \in [0.7, 2]$

B. $x_1 \in [-1.3, 0]$ and $x_2 \in [-0.7, 0.1]$

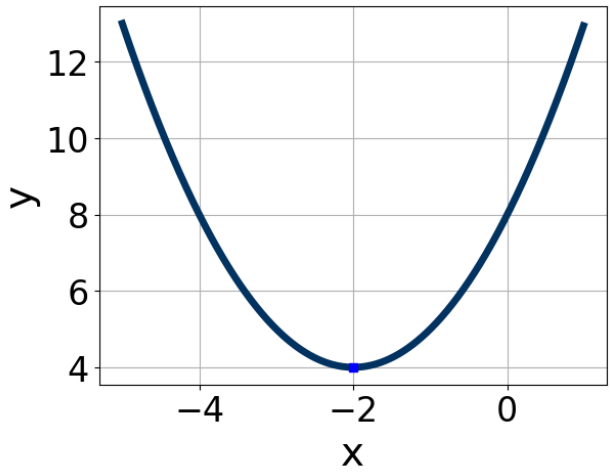
C. $x_1 \in [-9.2, -7.9]$ and $x_2 \in [6.2, 8.7]$

D. $x_1 \in [2, 3.6]$ and $x_2 \in [10, 11.9]$

E. There are no Real solutions.

---

7. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [0, 2]$, $b \in [-5, 0]$, and $c \in [7, 11]$

B. $a \in [0, 2]$, $b \in [-5, 0]$, and $c \in [0, 2]$

C. $a \in [-1, 0]$, $b \in [-5, 0]$, and $c \in [0, 2]$

D. $a \in [0, 2]$, $b \in [1, 5]$, and $c \in [7, 11]$

E. $a \in [-1, 0]$, $b \in [1, 5]$, and $c \in [0, 2]$

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8. Factor the quadratic below. Then, choose the intervals that contain the constants in the form $(ax + b)(cx + d); b \leq d$.

$$24x^2 + 38x + 15$$

A. $a \in [0.76, 1.39]$, $b \in [15, 27]$, $c \in [-0.34, 1.43]$, and $d \in [13, 21]$

B. $a \in [3.16, 4.1]$, $b \in [2, 7]$, $c \in [5.71, 7.6]$, and $d \in [3, 11]$

C. $a \in [1.31, 2.88]$, $b \in [2, 7]$, $c \in [10.56, 13.74]$, and $d \in [3, 11]$

D. $a \in [7.73, 8.76]$, $b \in [2, 7]$, $c \in [2.39, 3.08]$, and $d \in [3, 11]$

E. None of the above.

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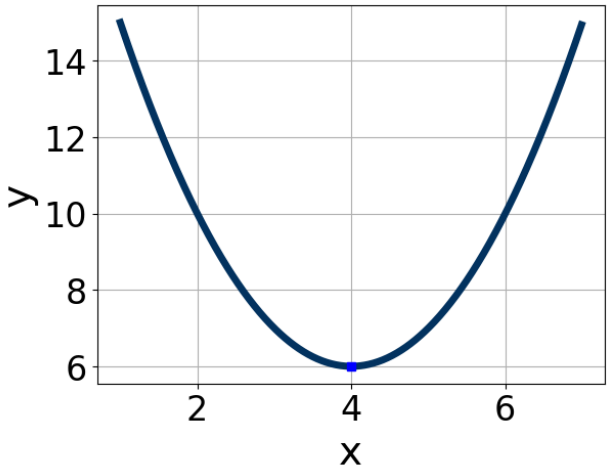
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [0, 3]$, $b \in [5, 10]$, and $c \in [21, 24]$

B. $a \in [-1, 0]$, $b \in [5, 10]$, and $c \in [-10, -6]$

C. $a \in [0, 3]$, $b \in [-11, -3]$, and $c \in [21, 24]$

D. $a \in [-1, 0]$, $b \in [-11, -3]$, and $c \in [-10, -6]$

E. $a \in [0, 3]$, $b \in [5, 10]$, and $c \in [7, 12]$

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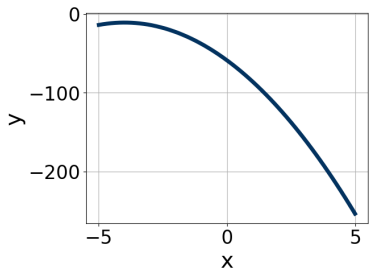
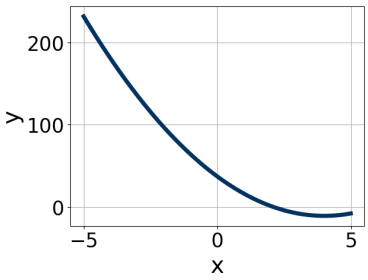
10. Graph the equation below.

$$f(x) = -(x - 4)^2 - 11$$

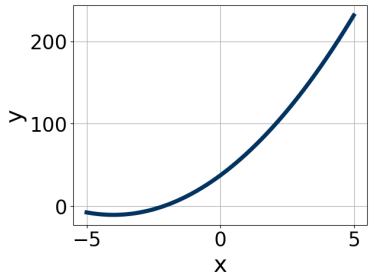
A.



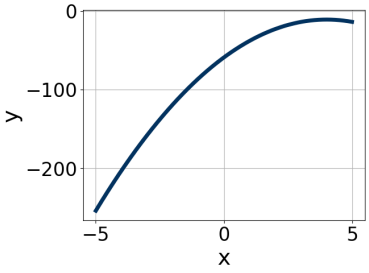
C.



B.



D.



E. None of the above.
