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

$$10x^2 + 57x + 54 = 0$$

A. $x_1 \in [-9.61, -8.33]$ and $x_2 \in [-0.67, -0.42]$

B. $x_1 \in [-45.06, -43.86]$ and $x_2 \in [-12.03, -11.96]$

C. $x_1 \in [-3.79, -2.7]$ and $x_2 \in [-1.51, -1.28]$

D. $x_1 \in [-6, -3.8]$ and $x_2 \in [-1.31, -1.17]$

E. $x_1 \in [-15.12, -12.2]$ and $x_2 \in [-0.5, -0.35]$

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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 $x_1 \leq x_2$.

$$12x^2 + 11x - 36 = 0$$

A. $x_1 \in [-0.9, 0.02]$ and $x_2 \in [3.15, 4.67]$

B. $x_1 \in [-2.53, -1.56]$ and $x_2 \in [1.03, 1.47]$

C. $x_1 \in [-27.88, -25.28]$ and $x_2 \in [15.47, 16.58]$

D. $x_1 \in [-9.33, -7.37]$ and $x_2 \in [-0.25, 0.42]$

E. $x_1 \in [-4.87, -2.48]$ and $x_2 \in [0.65, 0.69]$

---

3. 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. $a \in [7.19, 9.72], \quad b \in [3, 7], \quad c \in [2.2, 4.2]$, and $\quad d \in [0, 7]$

B. $a \in [3.28, 5.6], \quad b \in [3, 7], \quad c \in [5.3, 8.4]$, and $\quad d \in [0, 7]$

C. $a \in [1.39, 3.83], \quad b \in [3, 7], \quad c \in [11.7, 13]$, and $\quad d \in [0, 7]$

D. $a \in [0.35, 1.34], \quad b \in [16, 24], \quad c \in [-2.7, 1.5]$, and $\quad d \in [16, 22]$

E. None of the above.

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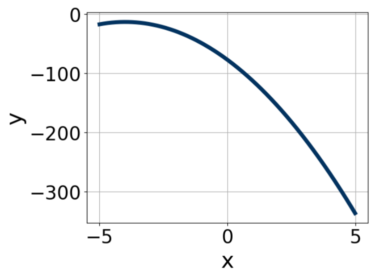
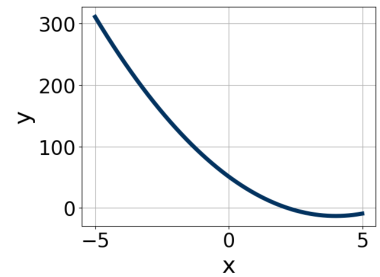
4. Graph the equation below.

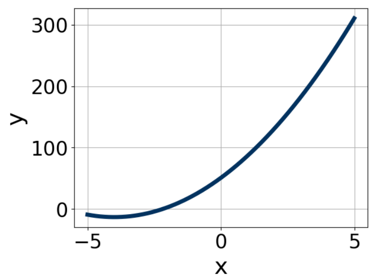
$$f(x) = (x+4)^2 - 13$$



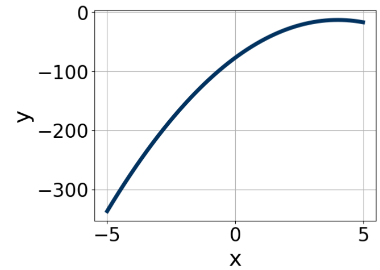
A.



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).

$$-15x^2 - 11x + 3 = 0$$

A. $x_1 \in [-3.2, -1.77]$ and $x_2 \in [13.03, 14.69]$

B. $x_1 \in [-18.06, -17.49]$ and $x_2 \in [16.38, 17.64]$

C. $x_1 \in [-0.25, 0.19]$ and $x_2 \in [0.47, 2.44]$

D. $x_1 \in [-1.45, -0.57]$ and $x_2 \in [0.14, 0.22]$

E. There are no Real solutions.

---

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

$$-18x^2 - 12x + 3 = 0$$

A. $x_1 \in [-4.06, -2.84]$ and $x_2 \in [15.48, 15.53]$

B. $x_1 \in [-0.22, -0.12]$ and $x_2 \in [0.23, 0.99]$

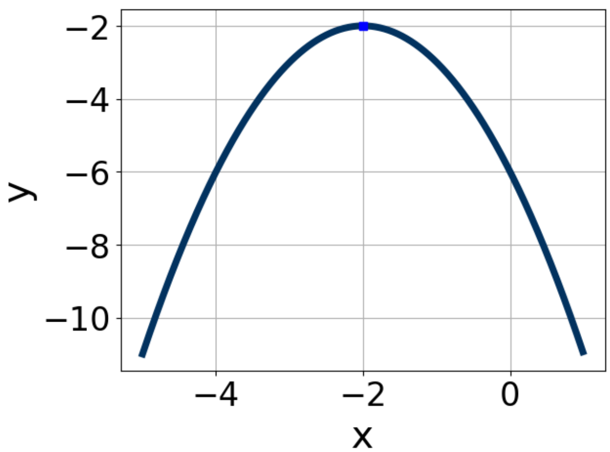
C. $x_1 \in [-19.88, -18.89]$ and $x_2 \in [18.28, 18.76]$

D. $x_1 \in [-1.52, -0.7]$ and $x_2 \in [-0.67, 0.77]$

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. $a \in [0.6, 2.8], \quad b \in [-7, -3], \text{ and } \quad c \in [2, 4]$

B. $a \in [-2.5, -0.8], \quad b \in [-7, -3], \text{ and } \quad c \in [-8, -5]$

C. $a \in [-2.5, -0.8], \quad b \in [2, 5], \text{ and } \quad c \in [-8, -5]$

D. $a \in [0.6, 2.8], \quad b \in [2, 5], \text{ and } \quad c \in [2, 4]$

E. $a \in [-2.5, -0.8], \quad b \in [2, 5], \text{ and } \quad c \in [-2, 1]$

---

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

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

A. $a \in [0.4, 1.9], \quad b \in [-21, -17], \quad c \in [-1.2, 1.1], \text{ and } \quad d \in [19, 21]$

B. $a \in [7.9, 9.9], \quad b \in [-3, 2], \quad c \in [1.2, 3.2], \text{ and } \quad d \in [1, 7]$

C. $a \in [0.4, 1.9], \quad b \in [-3, 2], \quad c \in [16.8, 20.9], \text{ and } \quad d \in [1, 7]$

D. $a \in [2.4, 5.1], \quad b \in [-3, 2], \quad c \in [3.6, 6.7], \text{ and } \quad d \in [1, 7]$

E. None of the above.

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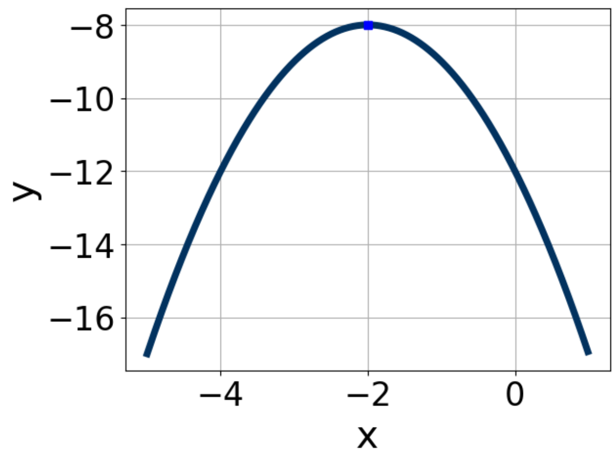
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0.2, 1.8], \quad b \in [1, 5], \text{ and } \quad c \in [-6, -3]$

B. $a \in [-1.6, -0.9], \quad b \in [-8, -2], \text{ and } \quad c \in [-14, -11]$

C. $a \in [-1.6, -0.9], \quad b \in [1, 5], \text{ and } \quad c \in [2, 6]$

D. $a \in [0.2, 1.8], \quad b \in [-8, -2], \text{ and } \quad c \in [-6, -3]$

E. $a \in [-1.6, -0.9], \quad b \in [1, 5], \text{ and } \quad c \in [-14, -11]$

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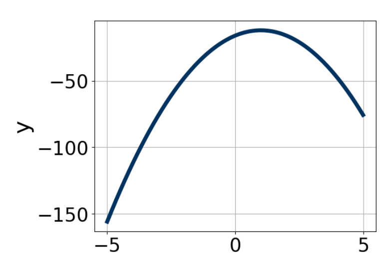
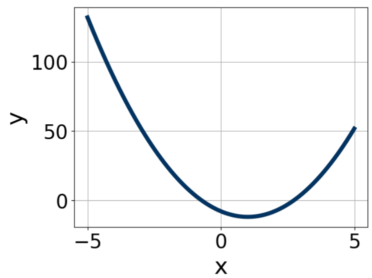
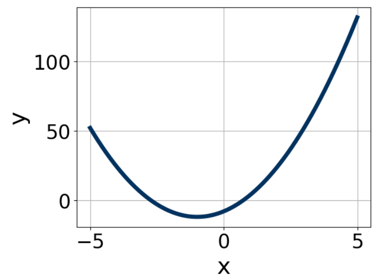
10. Graph the equation below.

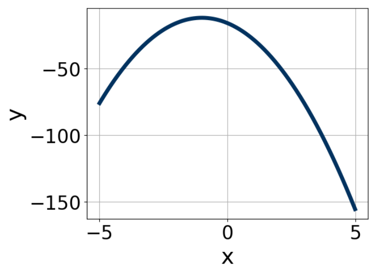
$$f(x) = -(x-1)^2 - 12$$



A.

B. 

D. 

C. 

E. None of the above.