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

$$25x^2 + 60x + 36 = 0$$

A. $x_1 \in [-1.67, -0.62]$ and $x_2 \in [-1.37, -1.13]$

B. $x_1 \in [-2.71, -2.09]$ and $x_2 \in [-0.62, -0.43]$

C. $x_1 \in [-30.32, -29.56]$ and $x_2 \in [-30.09, -29.82]$

D. $x_1 \in [-4.21, -2.61]$ and $x_2 \in [-0.5, -0.34]$

E. $x_1 \in [-6.1, -5.64]$ and $x_2 \in [-0.27, -0.21]$

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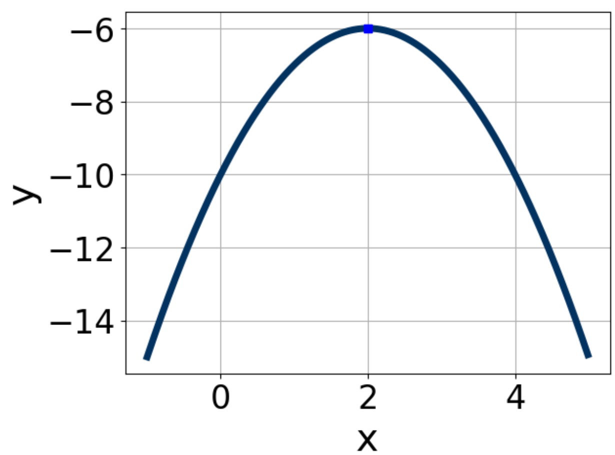
2. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-3, 0], \quad b \in [4, 6], \text{ and } \quad c \in [-11, -7]$

B. $a \in [-3, 0], \quad b \in [-9, 0], \text{ and } \quad c \in [1, 8]$

C. $a \in [-3, 0], \quad b \in [-9, 0], \text{ and } \quad c \in [-11, -7]$

D. $a \in [1, 2], \quad b \in [-9, 0], \text{ and } \quad c \in [-3, 0]$

E. $a \in [1, 2], \quad b \in [4, 6], \text{ and } \quad c \in [-3, 0]$

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

$$-20x^2 + 8x + 4 = 0$$

A. $x_1 \in [-0.58, -0.19]$ and $x_2 \in [0.54, 0.9]$

B. $x_1 \in [-0.91, -0.38]$ and $x_2 \in [-0.1, 0.53]$

C. $x_1 \in [-13.82, -13.78]$ and $x_2 \in [5, 6.26]$

D. $x_1 \in [-19.86, -18.94]$ and $x_2 \in [19.62, 19.85]$

E. There are no Real solutions.

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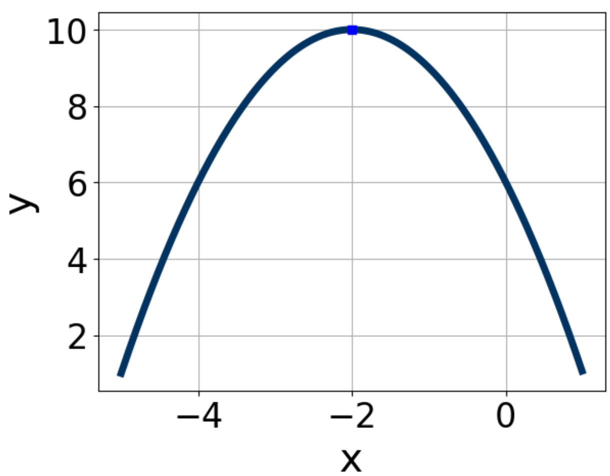
4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1.3, -0.5], \quad b \in [-7, 0],$ and $\quad c \in [4, 7]$

B. $a \in [0.8, 1.1], \quad b \in [4, 7],$ and $\quad c \in [12, 15]$

C. $a \in [-1.3, -0.5], \quad b \in [4, 7],$ and $\quad c \in [4, 7]$

D. $a \in [-1.3, -0.5], \quad b \in [4, 7],$ and $\quad c \in [-15, -12]$

E. $a \in [0.8, 1.1], \quad b \in [-7, 0],$ and $\quad c \in [12, 15]$

---

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

$$14x^2 - 10x - 9 = 0$$

A. $x_1 \in [-0.7, 0.2]$ and $x_2 \in [0.9, 1.3]$

B. $x_1 \in [-24.7, -22.5]$ and $x_2 \in [23.8, 25.2]$

C. $x_1 \in [-1.4, -1]$ and $x_2 \in [-0.1, 1]$

D. $x_1 \in [-7.5, -6.9]$ and $x_2 \in [16.5, 17.5]$

E. There are no Real solutions.

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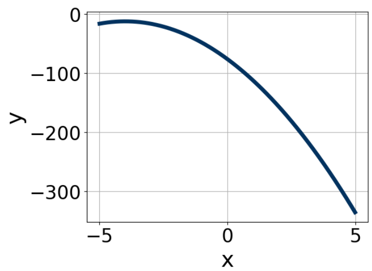
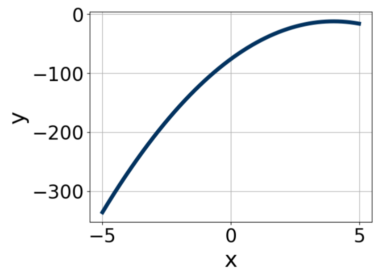
6. Graph the equation below.

$$f(x) = (x - 4)^2 - 12$$

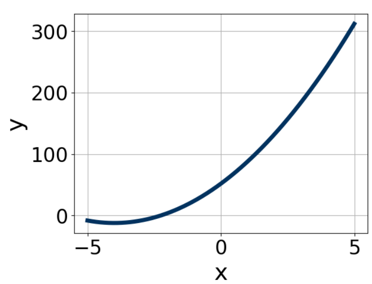
A.



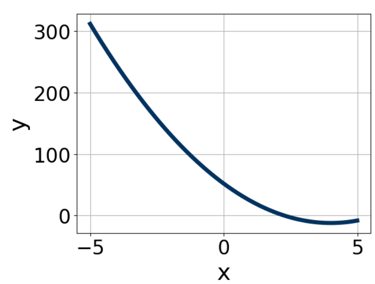
C.



B.



D.



E. None of the above.

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

$$15x^2 - 8x - 16 = 0$$

A. $x_1 \in [-4.74, -3.53]$ and $x_2 \in [0.15, 0.57]$

B. $x_1 \in [-1.07, -0.65]$ and $x_2 \in [1.03, 1.48]$

C. $x_1 \in [-0.71, -0.22]$ and $x_2 \in [2.57, 2.73]$

D. $x_1 \in [-12.42, -11.07]$ and $x_2 \in [19.9, 20.12]$

E. $x_1 \in [-1.87, -0.88]$ and $x_2 \in [0.65, 1.15]$

---

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

$$81x^2 - 81x + 20$$

A. $a \in [1, 2], \quad b \in [-45, -40], \quad c \in [0, 2],$ and $\quad d \in [-39, -35]$

B. $a \in [27, 30], \quad b \in [-14, -2], \quad c \in [3, 7],$ and $\quad d \in [-4, -3]$

C. $a \in [4, 12], \quad b \in [-14, -2], \quad c \in [8, 13],$ and $\quad d \in [-4, -3]$

D. $a \in [3, 4], \quad b \in [-14, -2], \quad c \in [27, 28],$ and $\quad d \in [-4, -3]$

E. None of the above.

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

$$36x^2 + 25x - 25$$

A. $a \in [0.1, 2.6], \quad b \in [-21, -19], \quad c \in [0.8, 2.4],$ and $\quad d \in [41, 48]$

B. $a \in [26.7, 30.7], \quad b \in [-8, -1], \quad c \in [0.8, 2.4],$ and $\quad d \in [1, 6]$

C. $a \in [7.3, 9.3], \quad b \in [-8, -1], \quad c \in [3.7, 6.4],$ and $\quad d \in [1, 6]$

D. $a \in [3.6, 4.1], \quad b \in [-8, -1], \quad c \in [5.3, 11.9],$ and $\quad d \in [1, 6]$

E. None of the above.

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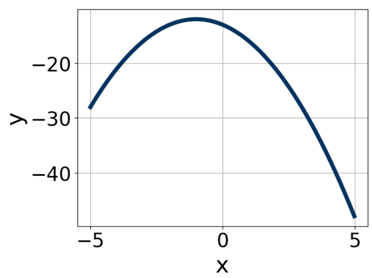
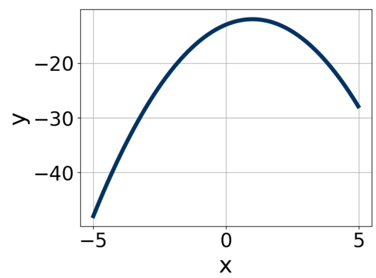
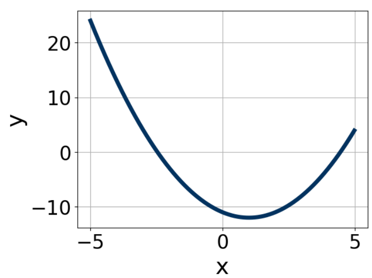
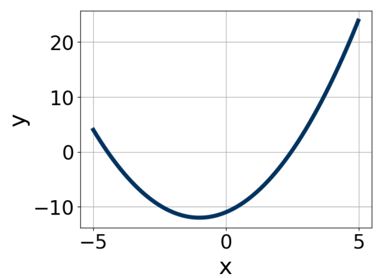
10. Graph the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.