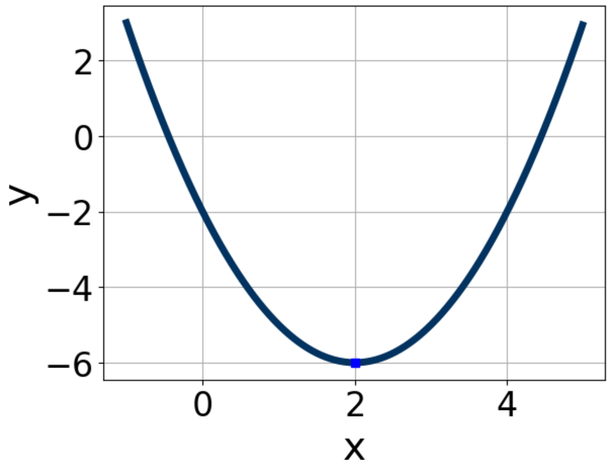
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and $c$ belong to.




A. $a \in [0, 1.9], \quad b \in [0, 9], \text{ and } \quad c \in [10, 11]$

B. $a \in [0, 1.9], \quad b \in [-7, -3], \text{ and } \quad c \in [-2, 2]$

C. $a \in [0, 1.9], \quad b \in [0, 9], \text{ and } \quad c \in [-2, 2]$

D. $a \in [-2.3, -0.6], \quad b \in [0, 9], \text{ and } \quad c \in [-12, -9]$

E. $a \in [-2.3, -0.6], \quad b \in [-7, -3], \text{ and } \quad c \in [-12, -9]$

---

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

$$24x^2 + 50x + 25$$

A. $a \in [3.59, 5.5], \quad b \in [4, 11], \quad c \in [5.91, 6.34], \text{ and } \quad d \in [1, 6]$

B. $a \in [1.68, 3.64], \quad b \in [4, 11], \quad c \in [11.87, 12.15], \text{ and } \quad d \in [1, 6]$

C. $a \in [-1.04, 1.56], \quad b \in [17, 26], \quad c \in [0.92, 1.21], \text{ and } \quad d \in [23, 33]$

D. $a \in [11.73, 13.03], \quad b \in [4, 11], \quad c \in [1.2, 2.99], \text{ and } \quad d \in [1, 6]$

E. None of the above.

---

3. 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. $x_1 \in [-0.84, 0.34]$ and $x_2 \in [2.23, 2.89]$

B. $x_1 \in [-20.64, -19.82]$ and $x_2 \in [17.81, 18.57]$

C. $x_1 \in [-2.86, -1.67]$ and $x_2 \in [0.52, 0.81]$

D. $x_1 \in [-4.09, -3.97]$ and $x_2 \in [0.35, 0.45]$

E. $x_1 \in [-1.46, -0.8]$ and $x_2 \in [1.17, 1.62]$

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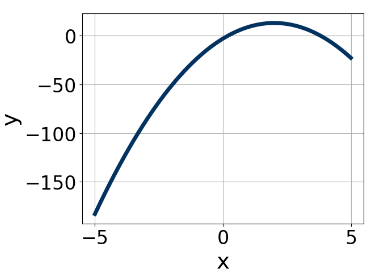
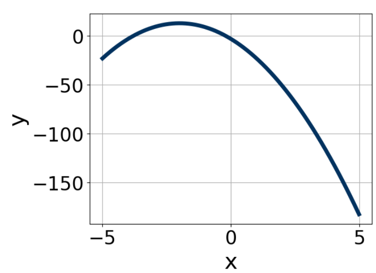
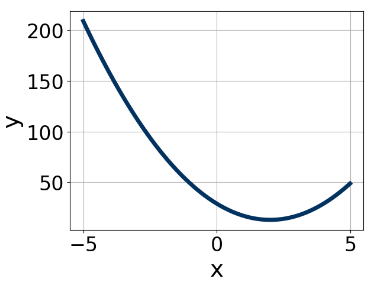
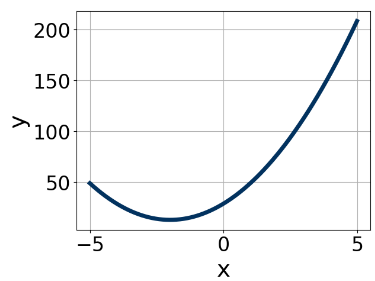
4. Graph the equation below.

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

A. 


C. 


B. 


D. 


E. None of the above.

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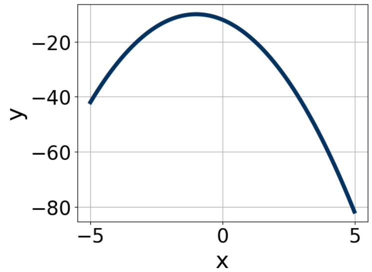
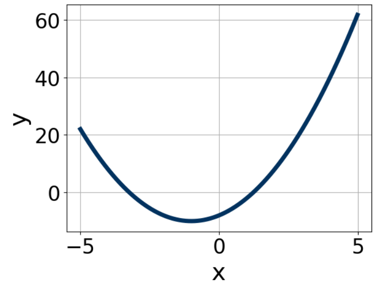
5. Graph the equation below.

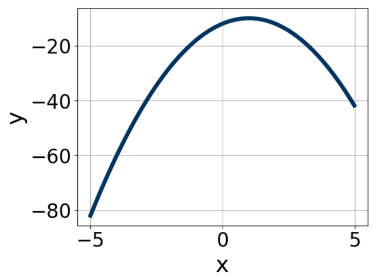
$$f(x) = (x - 1)^2 - 10$$



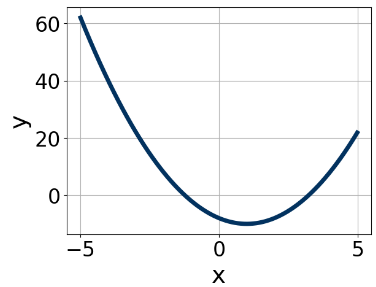

A.




C.




B.




D.

E. None of the above.

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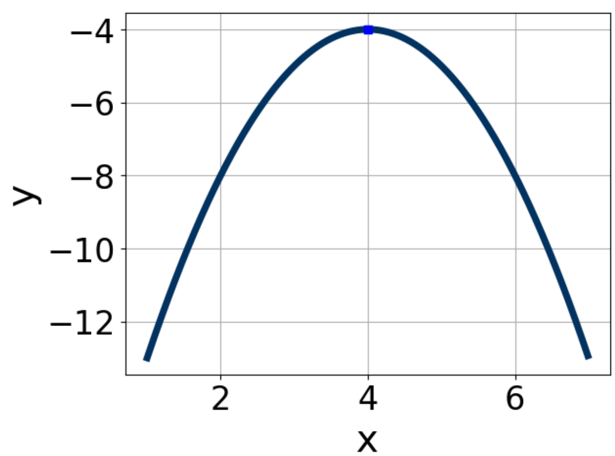
6. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and $c$ belong to.




A. $a \in [1, 5], \quad b \in [-9, -7], \text{ and } \quad c \in [9, 14]$

B. $a \in [1, 5], \quad b \in [6, 12], \text{ and } \quad c \in [9, 14]$

C. $a \in [-3, 0], \quad b \in [-9, -7], \text{ and } \quad c \in [-13, -11]$

D. $a \in [-3, 0], \quad b \in [-9, -7], \text{ and } \quad c \in [-22, -19]$

E. $a \in [-3, 0], \quad b \in [6, 12], \text{ and } \quad c \in [-22, -19]$

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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 $x_1 \leq x_2$.

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

A. $x_1 \in [1.2, 1.28]$ and $x_2 \in [0.02, 2.18]$

B. $x_1 \in [29.84, 30.02]$ and $x_2 \in [29.27, 30.72]$

C. $x_1 \in [0.51, 0.68]$ and $x_2 \in [2.07, 2.53]$

D. $x_1 \in [0.22, 0.28]$ and $x_2 \in [5.71, 6.33]$

E. $x_1 \in [0.32, 0.41]$ and $x_2 \in [2.97, 4.3]$

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

$$36x^2 + 43x + 12$$

A. $a \in [-0.7, 1.2], \quad b \in [15, 19], \quad c \in [-4.7, 3.3], \text{ and } \quad d \in [23, 28]$

B. $a \in [-0.7, 1.2], \quad b \in [-3, 10], \quad c \in [24.8, 30.7], \text{ and } \quad d \in [0, 7]$

C. $a \in [5.6, 10.6], \quad b \in [-3, 10], \quad c \in [3.3, 5.9], \text{ and } \quad d \in [0, 7]$

D. $a \in [2.1, 5.6], \quad b \in [-3, 10], \quad c \in [8.8, 10.7], \text{ and } \quad d \in [0, 7]$

E. None of the above.

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

$$16x^2 + 13x - 6 = 0$$

A. $x_1 \in [-21.2, -17.8]$ and $x_2 \in [5, 6.1]$

B. $x_1 \in [-25.3, -23.6]$ and $x_2 \in [22.2, 25.4]$

C. $x_1 \in [-1.1, 1]$ and $x_2 \in [0.6, 2.2]$

D. $x_1 \in [-1.3, -0.6]$ and $x_2 \in [-0.1, 0.4]$

E. There are no Real solutions.

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

$$-11x^2 + 7x + 6 = 0$$

A. $x_1 \in [-17.74, -16.31]$ and $x_2 \in [17.57, 18.71]$

B. $x_1 \in [-12.67, -12.24]$ and $x_2 \in [5.23, 5.44]$

C. $x_1 \in [-1.02, 0.29]$ and $x_2 \in [0.74, 1.56]$

D. $x_1 \in [-1.8, -0.97]$ and $x_2 \in [-0.29, 0.66]$

E. There are no Real solutions.

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