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

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

A. $a \in [0, 2.8], \quad b \in [-21, -10], \quad c \in [-0.42, 1.09], \text{ and } \quad d \in [25, 32]$

B. $a \in [16.2, 21.8], \quad b \in [-7, 0], \quad c \in [1.93, 2.39], \text{ and } \quad d \in [1, 5]$

C. $a \in [1.1, 4.3], \quad b \in [-7, 0], \quad c \in [10.71, 13.46], \text{ and } \quad d \in [1, 5]$

D. $a \in [8.4, 12.7], \quad b \in [-7, 0], \quad c \in [3.15, 5.03], \text{ and } \quad d \in [1, 5]$

E. None of the above.

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

$$18x^2 - 8x - 7 = 0$$

A. $x_1 \in [-0.94, -0.8]$ and $x_2 \in [0, 0.5]$

B. $x_1 \in [-8.21, -7.8]$ and $x_2 \in [14.6, 16.5]$

C. $x_1 \in [-24.14, -23.48]$ and $x_2 \in [21.9, 26.5]$

D. $x_1 \in [-0.57, -0.05]$ and $x_2 \in [0.8, 1.6]$

E. There are no Real solutions.

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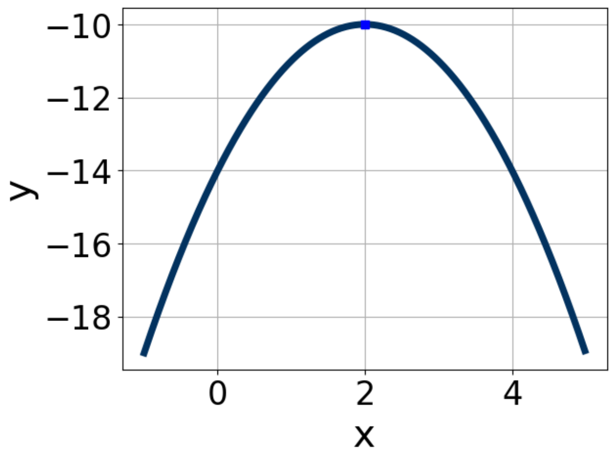
3. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-2.2, -0.8], \quad b \in [-5, 0], \text{ and } \quad c \in [4, 8]$

B. $a \in [-0.3, 1.4], \quad b \in [3, 5], \text{ and } \quad c \in [-8, -3]$

C. $a \in [-0.3, 1.4], \quad b \in [-5, 0], \text{ and } \quad c \in [-8, -3]$

D. $a \in [-2.2, -0.8], \quad b \in [-5, 0], \text{ and } \quad c \in [-15, -13]$

E. $a \in [-2.2, -0.8], \quad b \in [3, 5], \text{ and } \quad c \in [-15, -13]$

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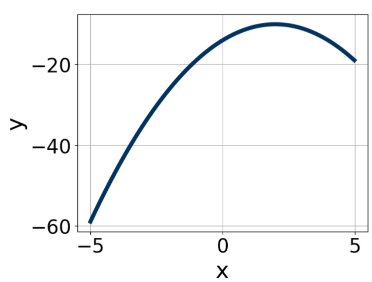
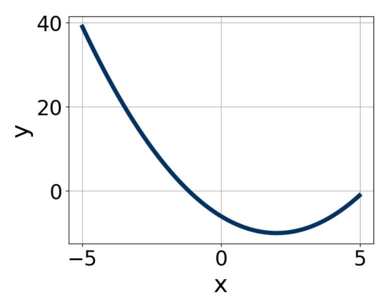
4. Graph the equation below.

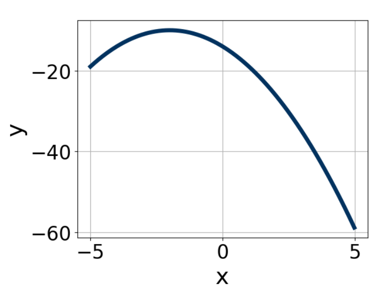
$$f(x) = (x + 2)^2 - 10$$



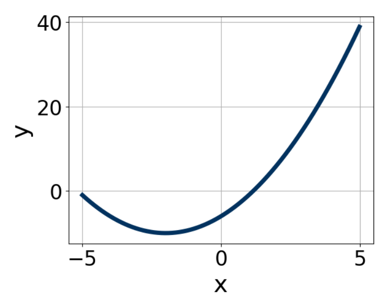
A.



C.



B.



D.

E. None of the above.

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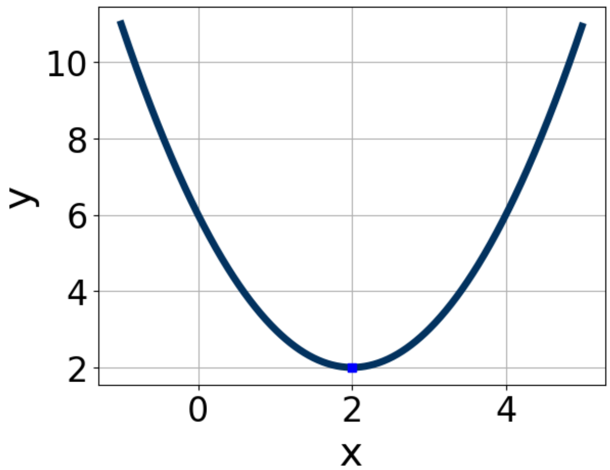
5. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-0.7, 1.3], \quad b \in [-6, 0], \text{ and } \quad c \in [5, 9]$

B. $a \in [-3.1, 0.8], \quad b \in [4, 6], \text{ and } \quad c \in [-7, 0]$

C. $a \in [-0.7, 1.3], \quad b \in [4, 6], \text{ and } \quad c \in [2, 4]$

D. $a \in [-0.7, 1.3], \quad b \in [4, 6], \text{ and } \quad c \in [5, 9]$

E. $a \in [-3.1, 0.8], \quad b \in [-6, 0], \text{ and } \quad c \in [-7, 0]$

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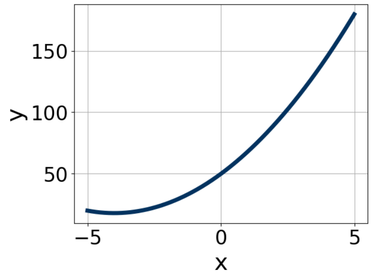
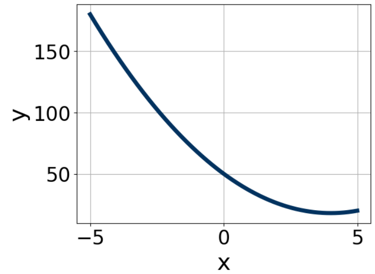
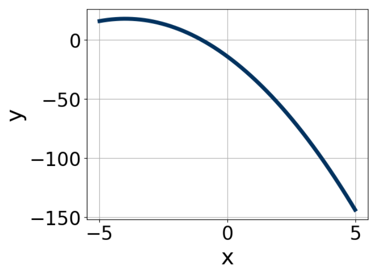
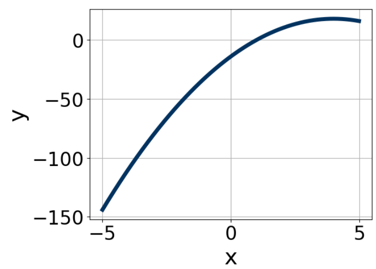
6. Graph the equation below.

$$f(x) = (x + 4)^2 + 18$$

A. 

B. 

C. 

D. 

E. None of the above.

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

$$36x^2 - 7x - 15$$

A. $a \in [0.44, 1.07], \quad b \in [-34, -26], \quad c \in [0.95, 2.15], \text{ and } \quad d \in [13, 22]$

B. $a \in [11.92, 12.51], \quad b \in [-7, 1], \quad c \in [2.96, 3.08], \text{ and } \quad d \in [3, 7]$

C. $a \in [1.89, 2.21], \quad b \in [-7, 1], \quad c \in [17.55, 20.08], \text{ and } \quad d \in [3, 7]$

D. $a \in [3.97, 4.08], \quad b \in [-7, 1], \quad c \in [7.56, 9.39], \text{ and } \quad d \in [3, 7]$

E. None of the above.

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

$$15x^2 - 38x + 24 = 0$$

A. $x_1 \in [1.1, 1.28]$ and $x_2 \in [1.32, 1.71]$

B. $x_1 \in [0.43, 0.56]$ and $x_2 \in [3.59, 3.98]$

C. $x_1 \in [0.38, 0.4]$ and $x_2 \in [3.77, 4.04]$

D. $x_1 \in [0.51, 0.74]$ and $x_2 \in [2.28, 2.82]$

E. $x_1 \in [17.9, 18.03]$ and $x_2 \in [19.65, 20.26]$

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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).

$$-18x^2 - 14x + 7 = 0$$

A. $x_1 \in [-1.01, -0.08]$ and $x_2 \in [0.5, 2.8]$

B. $x_1 \in [-7.03, -6.12]$ and $x_2 \in [19.7, 21.1]$

C. $x_1 \in [-27.45, -26.44]$ and $x_2 \in [24.9, 28.8]$

D. $x_1 \in [-1.79, -0.87]$ and $x_2 \in [-0.9, 1.1]$

E. There are no Real solutions.

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

$$25x^2 - 10x - 24 = 0$$

A. $x_1 \in [-20.89, -18.96]$ and $x_2 \in [29.23, 30.23]$

B. $x_1 \in [-1.17, -0.57]$ and $x_2 \in [1.12, 1.31]$

C. $x_1 \in [-5.67, -3.57]$ and $x_2 \in [0.21, 0.33]$

D. $x_1 \in [-0.76, 1.16]$ and $x_2 \in [2.97, 4.08]$

E. $x_1 \in [-3.35, -1.33]$ and $x_2 \in [0.29, 1.19]$
