1. 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. $a \in [3.99, 4.27], \quad b \in [2, 8], \quad c \in [5.98, 6.1], \text{ and } \quad d \in [2, 7]$

B. $a \in [1.23, 1.49], \quad b \in [2, 8], \quad c \in [17.17, 18.57], \text{ and } \quad d \in [2, 7]$

C. $a \in [7.87, 8.11], \quad b \in [2, 8], \quad c \in [2.99, 3.71], \text{ and } \quad d \in [2, 7]$

D. $a \in [0.58, 1.25], \quad b \in [13, 20], \quad c \in [0.61, 1.5], \text{ and } \quad d \in [18, 21]$

E. None of the above.

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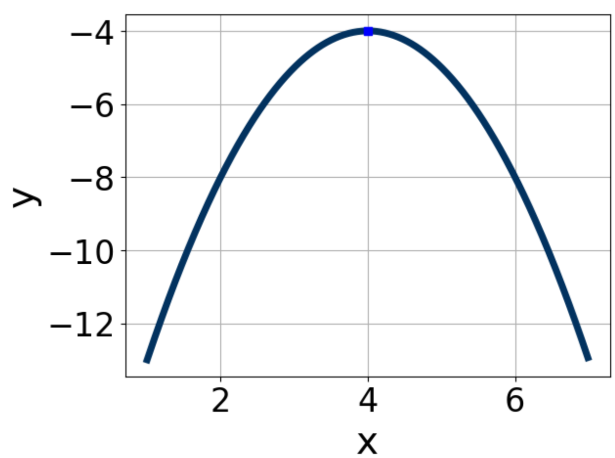
2. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0, 5], \quad b \in [4, 10], \text{ and } \quad c \in [7, 13]$

B. $a \in [-3, 0], \quad b \in [4, 10], \text{ and } \quad c \in [-22, -17]$

C. $a \in [-3, 0], \quad b \in [-10, -5], \text{ and } \quad c \in [-14, -8]$

D. $a \in [0, 5], \quad b \in [-10, -5], \text{ and } \quad c \in [7, 13]$

E. $a \in [-3, 0], \quad b \in [-10, -5], \text{ and } \quad c \in [-22, -17]$

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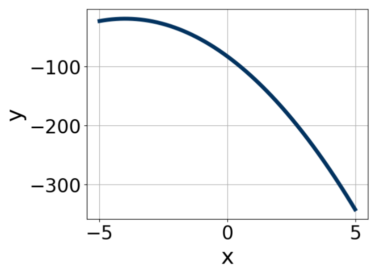
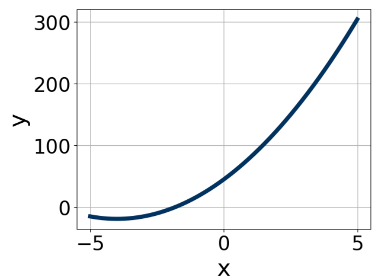
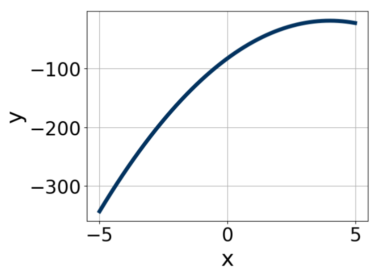
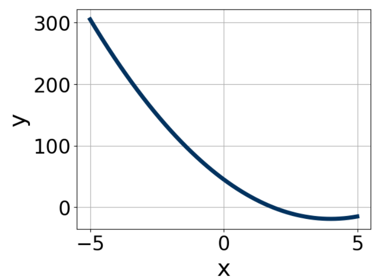
3. Graph the equation below.

$$f(x) = -(x-4)^2 - 19$$

A. 

C. 

B. 

D. 

E. None of the above.

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

$$-14x^2 + 8x + 9 = 0$$

A. $x_1 \in [-0.59, -0.31]$ and $x_2 \in [0.6, 1.9]$

B. $x_1 \in [-1.62, -0.68]$ and $x_2 \in [-0.1, 0.7]$

C. $x_1 \in [-16.48, -15.25]$ and $x_2 \in [6.9, 10.1]$

D. $x_1 \in [-24.23, -22.57]$ and $x_2 \in [23.9, 25.2]$

E. There are no Real solutions.

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

$$10x^2 - 37x - 36 = 0$$

A. $x_1 \in [-1, -0.56]$ and $x_2 \in [3.81, 4.76]$

B. $x_1 \in [-8.46, -7.58]$ and $x_2 \in [44.2, 46.52]$

C. $x_1 \in [-4.38, -3.54]$ and $x_2 \in [-0.16, 1.8]$

D. $x_1 \in [-1.75, -1.5]$ and $x_2 \in [0.98, 3.03]$

E. $x_1 \in [-0.36, -0.01]$ and $x_2 \in [13.28, 13.84]$