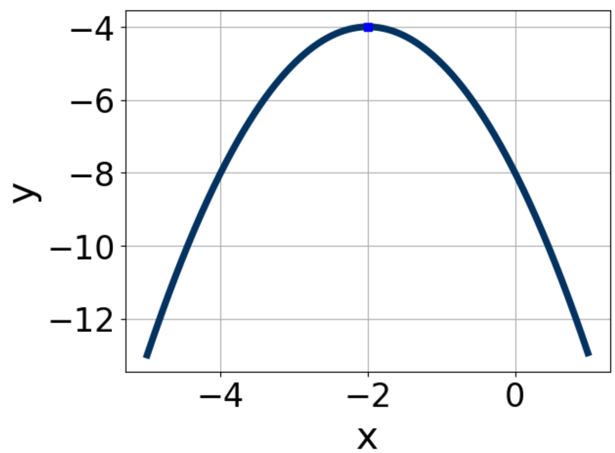
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-5, 0], \quad b \in [2, 6], \text{ and } \quad c \in [-10, -7]$

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

C. $a \in [-5, 0], \quad b \in [2, 6], \text{ and } \quad c \in [-1, 3]$

D. $a \in [-5, 0], \quad b \in [-9, -1], \text{ and } \quad c \in [-10, -7]$

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

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

$$24x^2 + 38x + 15$$

A. $a \in [0.66, 1.17], \quad b \in [14, 23], \quad c \in [0.1, 1.3], \text{ and } \quad d \in [17, 25]$

B. $a \in [7.56, 8.25], \quad b \in [0, 6], \quad c \in [1.2, 4.3], \text{ and } \quad d \in [-1, 9]$

C. $a \in [3.97, 4.01], \quad b \in [0, 6], \quad c \in [3.9, 6.1], \text{ and } \quad d \in [-1, 9]$

D. $a \in [1.22, 1.4], \quad b \in [0, 6], \quad c \in [17.1, 20.9], \text{ and } \quad d \in [-1, 9]$

E. None of the above.

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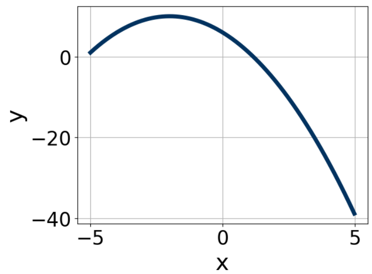
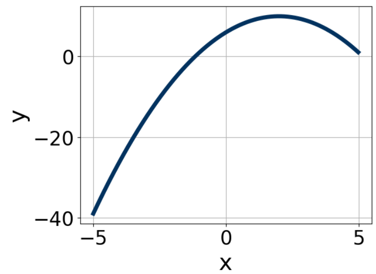
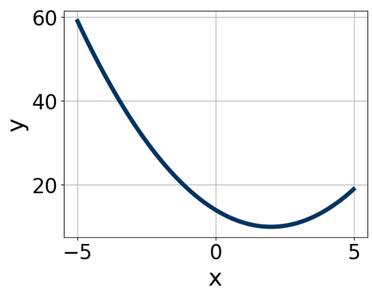
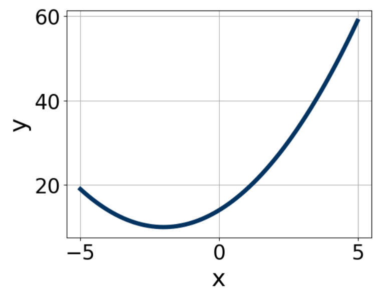
3. Graph the equation below.

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

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 x_1 and x_2 belong to, with $x_1 \leq x_2$.

$$8x^2 - 54x + 81 = 0$$

A. $x_1 \in [17.74, 18.55]$ and $x_2 \in [32.4, 37.5]$

B. $x_1 \in [0.16, 0.86]$ and $x_2 \in [12.9, 15]$

C. $x_1 \in [1.33, 1.8]$ and $x_2 \in [5.3, 8.6]$

D. $x_1 \in [1.11, 1.21]$ and $x_2 \in [8.4, 9.4]$

E. $x_1 \in [2.06, 2.51]$ and $x_2 \in [3.6, 5.1]$

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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).

$$-12x^2 - 12x + 5 = 0$$

A. $x_1 \in [-6.3, -3.1]$ and $x_2 \in [15.53, 16.4]$

B. $x_1 \in [-21.1, -19.2]$ and $x_2 \in [18.77, 19.71]$

C. $x_1 \in [-1.6, -1.2]$ and $x_2 \in [0.26, 0.5]$

D. $x_1 \in [-0.4, 1]$ and $x_2 \in [1.24, 2.47]$

E. There are no Real solutions.