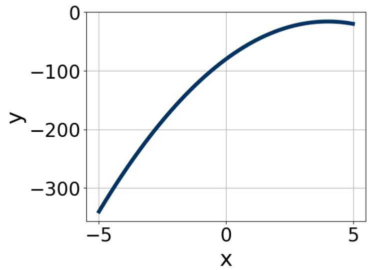
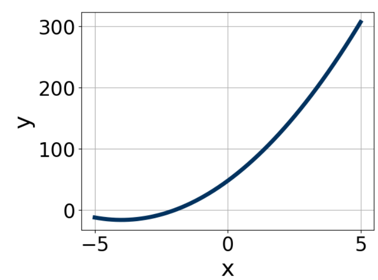
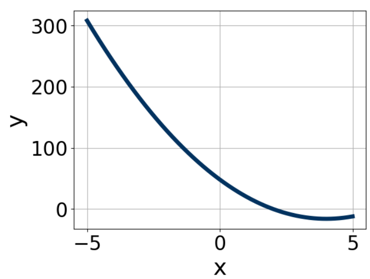
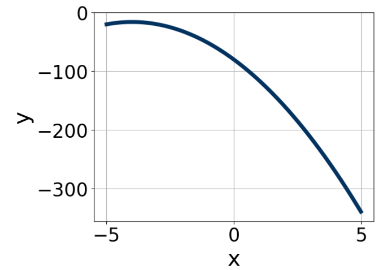
1. Graph the equation below.

$$f(x) = -(x-4)^2 - 16$$

A. 

C. 

B. 

D. 

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).

$$20x^2 - 8x - 3 = 0$$

A. $x_1 \in [-1.01, -0.35]$ and $x_2 \in [-0.28, 0.42]$

B. $x_1 \in [-17.34, -17.18]$ and $x_2 \in [17.5, 17.87]$

C. $x_1 \in [-5.38, -4.42]$ and $x_2 \in [12.41, 12.86]$

D. $x_1 \in [-0.34, 0.15]$ and $x_2 \in [0.33, 0.94]$

E. There are no Real solutions.

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

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

A. $a \in [11.7, 12.3], \quad b \in [-2, 7], \quad c \in [1.27, 4], \text{ and } \quad d \in [-3, 7]$

B. $a \in [2, 4.8], \quad b \in [-2, 7], \quad c \in [11.69, 12.19], \text{ and } \quad d \in [-3, 7]$

C. $a \in [5.8, 6.9], \quad b \in [-2, 7], \quad c \in [5.68, 7.14], \text{ and } \quad d \in [-3, 7]$

D. $a \in [-0.4, 1.5], \quad b \in [23, 36], \quad c \in [-0.81, 2.81], \text{ and } \quad d \in [28, 31]$

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 $x_1 \leq x_2$.

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

A. $x_1 \in [-20.06, -19.12]$ and $x_2 \in [-18.15, -17.93]$

B. $x_1 \in [-3.28, -2.39]$ and $x_2 \in [-0.73, -0.56]$

C. $x_1 \in [-6.47, -5.87]$ and $x_2 \in [-0.3, -0.12]$

D. $x_1 \in [-1.64, 1.24]$ and $x_2 \in [-1.28, -1.17]$

E. $x_1 \in [-5.11, -3.45]$ and $x_2 \in [-0.64, -0.36]$

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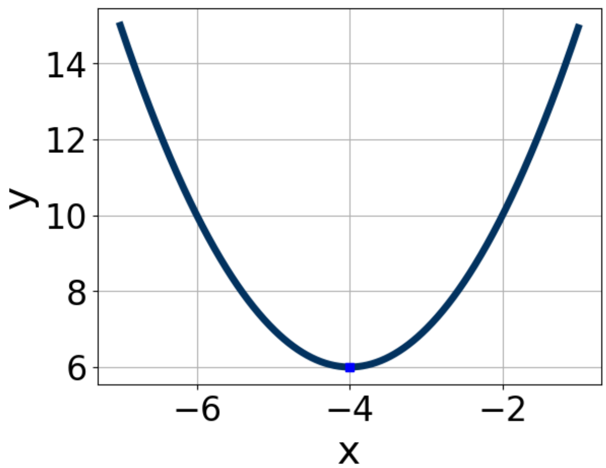
5. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [0.8, 2.5], \quad b \in [-11, -5], \text{ and } \quad c \in [20, 24]$

B. $a \in [-2.8, -0.2], \quad b \in [5, 10], \text{ and } \quad c \in [-11, -8]$

C. $a \in [0.8, 2.5], \quad b \in [5, 10], \text{ and } \quad c \in [20, 24]$

D. $a \in [-2.8, -0.2], \quad b \in [-11, -5], \text{ and } \quad c \in [-11, -8]$

E. $a \in [0.8, 2.5], \quad b \in [-11, -5], \text{ and } \quad c \in [7, 11]$
