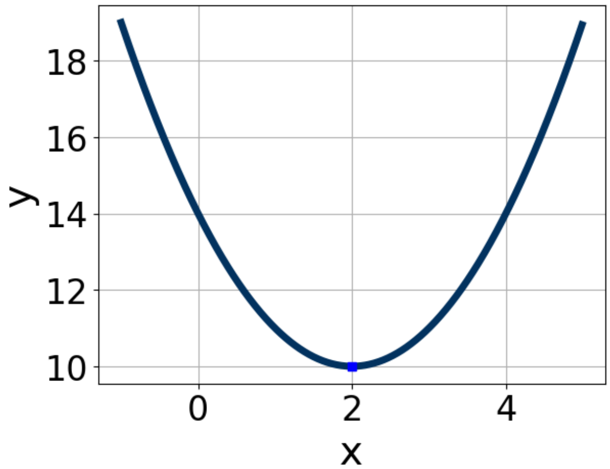
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0, 2], \quad b \in [-4, 3], \text{ and } \quad c \in [12, 17]$

B. $a \in [-3, 0], \quad b \in [2, 8], \text{ and } \quad c \in [2, 10]$

C. $a \in [0, 2], \quad b \in [2, 8], \text{ and } \quad c \in [12, 17]$

D. $a \in [0, 2], \quad b \in [2, 8], \text{ and } \quad c \in [-7, -4]$

E. $a \in [-3, 0], \quad b \in [-4, 3], \text{ and } \quad c \in [2, 10]$

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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).

$$-12x^2 + 13x - 2 = 0$$

A. $x_1 \in [-0.17, 0.91]$ and $x_2 \in [0.5, 1.6]$

B. $x_1 \in [-11.47, -10.3]$ and $x_2 \in [-3.7, -1.4]$

C. $x_1 \in [-1.25, -0.73]$ and $x_2 \in [-0.6, 0.6]$

D. $x_1 \in [-8.58, -7.41]$ and $x_2 \in [8.7, 9.5]$

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 $(ax+b)(cx+d); b \leq d$.

$$81x^2 - 9x - 20$$

A. $a \in [7.3, 9.5], \quad b \in [-8, -2], \quad c \in [8.2, 9.3], \text{ and } \quad d \in [-1, 5]$

B. $a \in [0.4, 1.5], \quad b \in [-47, -38], \quad c \in [0.9, 2.6], \text{ and } \quad d \in [35, 39]$

C. $a \in [1.8, 3.8], \quad b \in [-8, -2], \quad c \in [26.4, 31.5], \text{ and } \quad d \in [-1, 5]$

D. $a \in [24.8, 29.1], \quad b \in [-8, -2], \quad c \in [1.2, 3.3], \text{ and } \quad d \in [-1, 5]$

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).

$$-10x^2 - 8x + 5 = 0$$

A. $x_1 \in [-1.4, -0.5]$ and $x_2 \in [0.35, 0.42]$

B. $x_1 \in [-17.9, -15.9]$ and $x_2 \in [15.7, 15.88]$

C. $x_1 \in [-5.3, -3.4]$ and $x_2 \in [11.91, 12.38]$

D. $x_1 \in [-0.9, -0.3]$ and $x_2 \in [1.03, 1.39]$

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 $x_1 \leq x_2$.

$$8x^2 - 18x - 81 = 0$$

A. $x_1 \in [-7.9, -3.5]$ and $x_2 \in [1.47, 1.59]$

B. $x_1 \in [-2.9, -0.9]$ and $x_2 \in [4.17, 4.68]$

C. $x_1 \in [-20.8, -17.6]$ and $x_2 \in [35.67, 36.03]$

D. $x_1 \in [-10.8, -8.1]$ and $x_2 \in [1.09, 1.28]$

E. $x_1 \in [-0.9, 1.8]$ and $x_2 \in [13.48, 13.85]$

6. 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. $x_1 \in [-2.02, -1.01]$ and $x_2 \in [0.82, 1.52]$

B. $x_1 \in [-0.8, -0.38]$ and $x_2 \in [3.47, 3.7]$

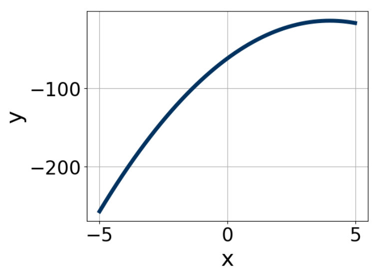
C. $x_1 \in [-2.71, -2.34]$ and $x_2 \in [0.41, 0.62]$

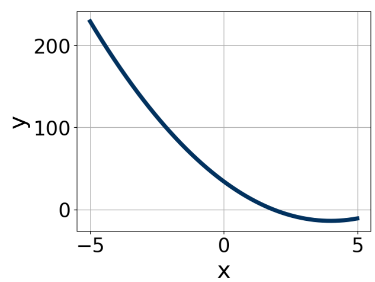
D. $x_1 \in [-4.21, -3.84]$ and $x_2 \in [0.14, 0.57]$

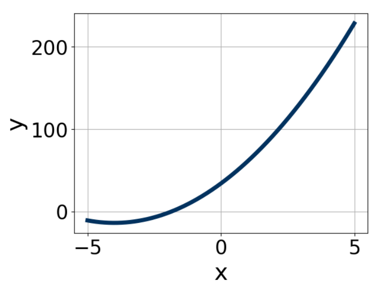
E. $x_1 \in [-20.22, -19.73]$ and $x_2 \in [17.84, 18.35]$

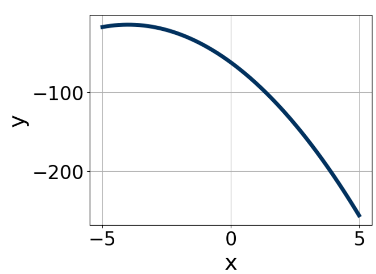
7. Graph the equation below.

$$f(x) = (x-4)^2 - 14$$

A. 

C. 

B. 

D. 

E. None of the above.

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

$$54x^2 + 57x + 10$$

A. $a \in [2.4, 3.5], \quad b \in [-6, 5], \quad c \in [17, 18.2], \text{ and } \quad d \in [5, 9]$

B. $a \in [8.9, 9.8], \quad b \in [-6, 5], \quad c \in [5.8, 7.6], \text{ and } \quad d \in [5, 9]$

C. $a \in [15.6, 20.4], \quad b \in [-6, 5], \quad c \in [1.4, 3.1], \text{ and } \quad d \in [5, 9]$

D. $a \in [0.7, 2.7], \quad b \in [12, 14], \quad c \in [-1.4, 2.5], \text{ and } \quad d \in [44, 49]$

E. None of the above.

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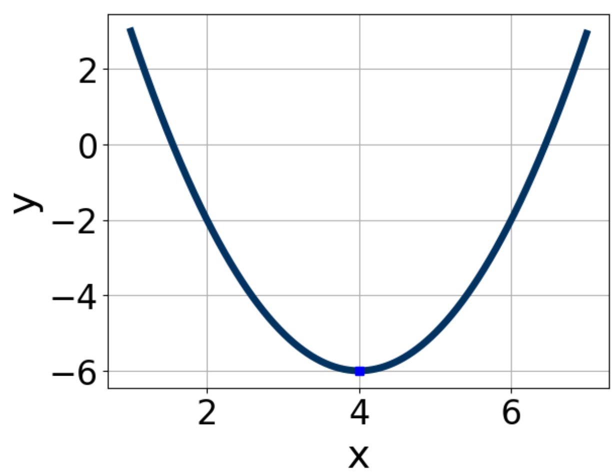
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-5, 0], \quad b \in [-11, -6], \text{ and } \quad c \in [-22, -20]$

B. $a \in [1, 4], \quad b \in [5, 13], \text{ and } \quad c \in [20, 25]$

C. $a \in [-5, 0], \quad b \in [5, 13], \text{ and } \quad c \in [-22, -20]$

D. $a \in [1, 4], \quad b \in [5, 13], \text{ and } \quad c \in [7, 11]$

E. $a \in [1, 4], \quad b \in [-11, -6], \text{ and } \quad c \in [7, 11]$

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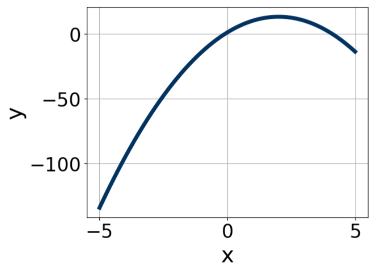
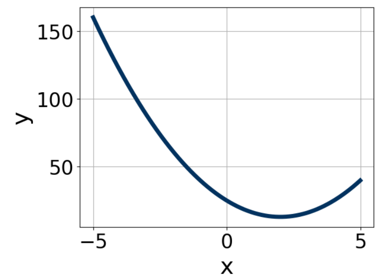
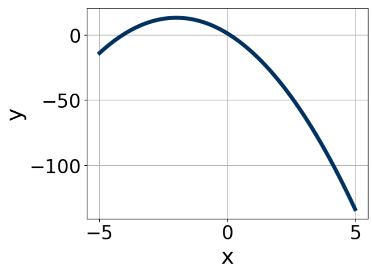
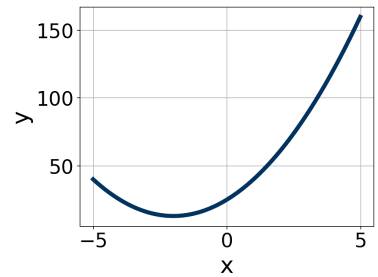
10. Graph the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.