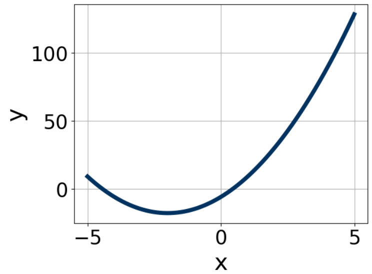
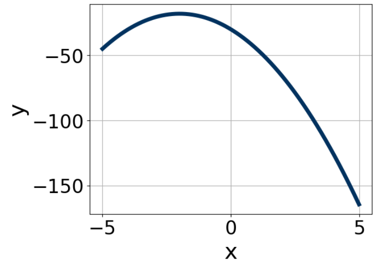
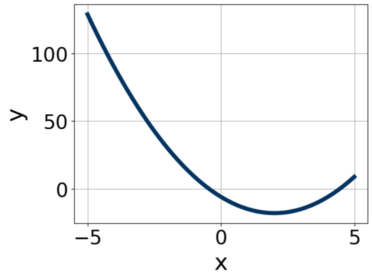
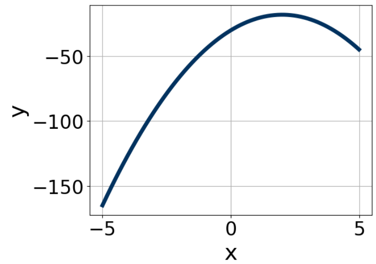
1. Graph the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.

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

$$24x^2 + 10x - 25$$

A. $a \in [5, 8.6], \quad b \in [-9, -2], \quad c \in [3.19, 4.96], \text{ and } \quad d \in [1, 6]$

B. $a \in [11.2, 12.7], \quad b \in [-9, -2], \quad c \in [1.41, 2.41], \text{ and } \quad d \in [1, 6]$

C. $a \in [-0.6, 1.6], \quad b \in [-20, -14], \quad c \in [-0.12, 1.91], \text{ and } \quad d \in [28, 33]$

D. $a \in [2.8, 5.9], \quad b \in [-9, -2], \quad c \in [6.82, 8.5], \text{ and } \quad d \in [1, 6]$

E. None of the above.

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

$$11x^2 - 9x - 9 = 0$$

A. $x_1 \in [-1.8, -1.15]$ and $x_2 \in [0.4, 1.1]$

B. $x_1 \in [-6.53, -5.56]$ and $x_2 \in [14.6, 16.8]$

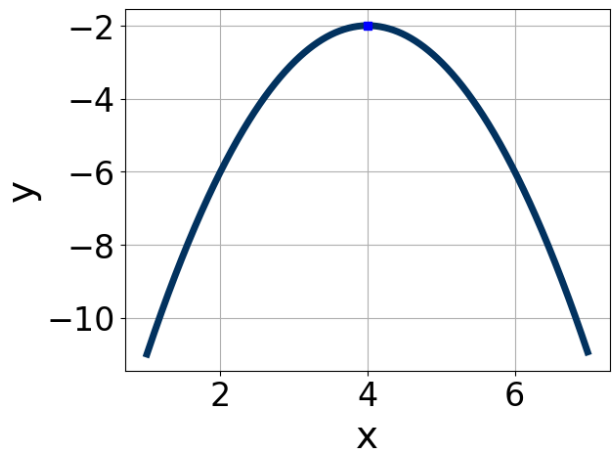
C. $x_1 \in [-0.82, -0.28]$ and $x_2 \in [0.8, 2.5]$

D. $x_1 \in [-22.01, -21.25]$ and $x_2 \in [21.4, 23.1]$

E. There are no Real solutions.

---

4. 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. $a \in [-1.6, -0.5], \quad b \in [-11, -7], \text{ and } \quad c \in [-15, -10]$

B. $a \in [0.1, 2.2], \quad b \in [-11, -7], \text{ and } \quad c \in [13, 18]$

C. $a \in [-1.6, -0.5], \quad b \in [8, 12], \text{ and } \quad c \in [-18, -15]$

D. $a \in [-1.6, -0.5], \quad b \in [-11, -7], \text{ and } \quad c \in [-18, -15]$

E. $a \in [0.1, 2.2], \quad b \in [8, 12], \text{ and } \quad c \in [13, 18]$

---

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

$$-17x^2 - 12x + 7 = 0$$

A. $x_1 \in [-0.5, 0.1]$ and $x_2 \in [0.73, 1.12]$

B. $x_1 \in [-7.8, -5]$ and $x_2 \in [18.27, 18.8]$

C. $x_1 \in [-1.8, -0.8]$ and $x_2 \in [0.06, 0.91]$

D. $x_1 \in [-25.7, -23.9]$ and $x_2 \in [24.24, 25.11]$

E. There are no Real solutions.

---

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

$$20x^2 + 69x + 54 = 0$$

A. $x_1 \in [-7.11, -6.72]$ and $x_2 \in [-0.46, -0.39]$

B. $x_1 \in [-47, -43.01]$ and $x_2 \in [-24.04, -23.96]$

C. $x_1 \in [-3.03, -1.46]$ and $x_2 \in [-1.32, -1.16]$

D. $x_1 \in [-3.67, -2.91]$ and $x_2 \in [-0.76, -0.73]$

E. $x_1 \in [-10.24, -7.62]$ and $x_2 \in [-0.39, -0.28]$

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7. 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. $x_1 \in [-6.3, -5.89]$ and $x_2 \in [-0.39, -0.19]$

B. $x_1 \in [-2.66, -2.14]$ and $x_2 \in [-0.68, -0.64]$

C. $x_1 \in [-2.9, -2.42]$ and $x_2 \in [-0.61, -0.57]$

D. $x_1 \in [-20.12, -19.92]$ and $x_2 \in [-18.08, -17.92]$

E. $x_1 \in [-1.54, -0.69]$ and $x_2 \in [-1.31, -1.13]$

---

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

$$36x^2 + 19x - 6$$

A. $a \in [25.9, 28.5], \quad b \in [-6, 0], \quad c \in [-0.1, 3.6], \text{ and } \quad d \in [2, 10]$

B. $a \in [1.9, 5.4], \quad b \in [-6, 0], \quad c \in [7.2, 9], \text{ and } \quad d \in [2, 10]$

C. $a \in [6.7, 11.6], \quad b \in [-6, 0], \quad c \in [2.8, 4.1], \text{ and } \quad d \in [2, 10]$

D. $a \in [-2.5, 3.7], \quad b \in [-10, -6], \quad c \in [-0.1, 3.6], \text{ and } \quad d \in [24, 35]$

E. None of the above.

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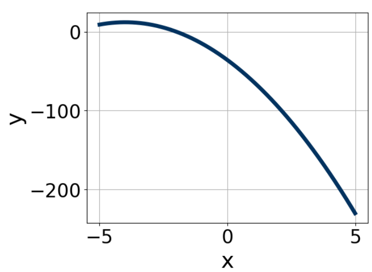
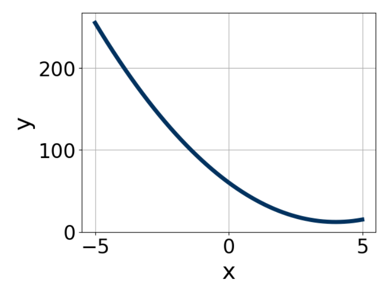
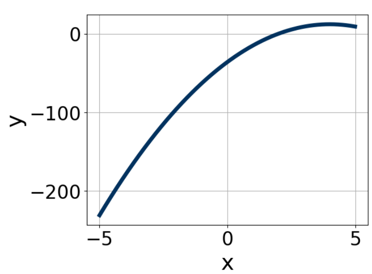
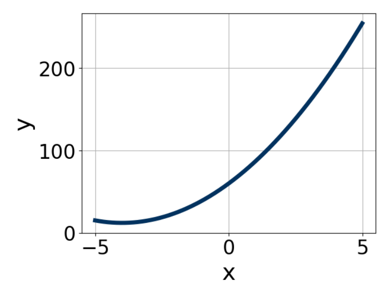
9. Graph the equation below.

$$f(x) = (x - 4)^2 + 12$$

A. 

C. 

B. 

D. 

E. None of the above.

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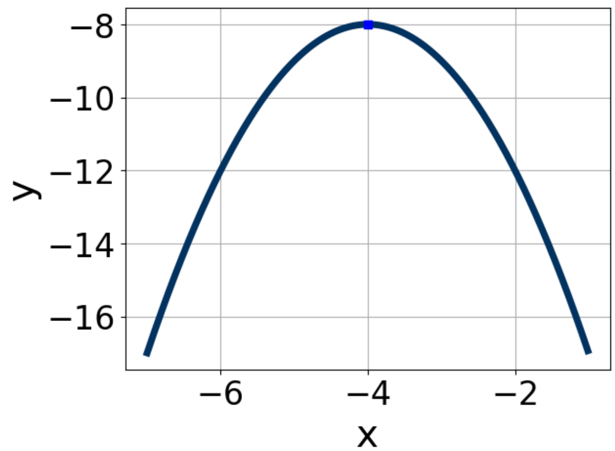
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [1, 2], \quad b \in [-9, -6], \text{ and } \quad c \in [8, 13]$

B. $a \in [-1, 0], \quad b \in [-9, -6], \text{ and } \quad c \in [-26, -21]$

C. $a \in [-1, 0], \quad b \in [8, 12], \text{ and } \quad c \in [-8, -6]$

D. $a \in [1, 2], \quad b \in [8, 12], \text{ and } \quad c \in [8, 13]$

E. $a \in [-1, 0], \quad b \in [8, 12], \text{ and } \quad c \in [-26, -21]$