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

$$20x^2 + 9x - 81 = 0$$

A. $x_1 \in [-9.31, -8.7]$ and $x_2 \in [0.32, 0.58]$

B. $x_1 \in [-1.1, -0.09]$ and $x_2 \in [5.3, 5.46]$

C. $x_1 \in [-7.67, -5.75]$ and $x_2 \in [0.56, 0.77]$

D. $x_1 \in [-46.1, -43.83]$ and $x_2 \in [35.99, 36.15]$

E. $x_1 \in [-3.85, -1.39]$ and $x_2 \in [1.74, 1.94]$

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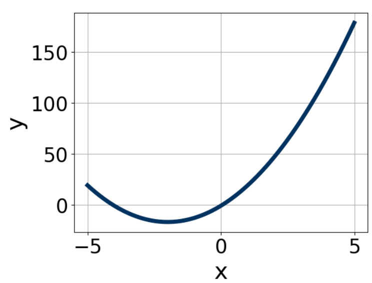
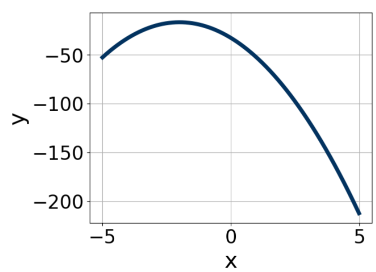
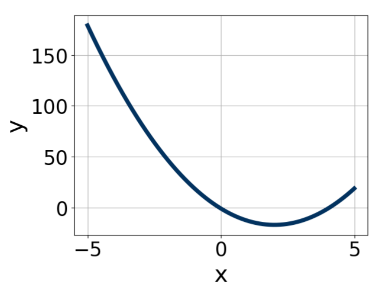
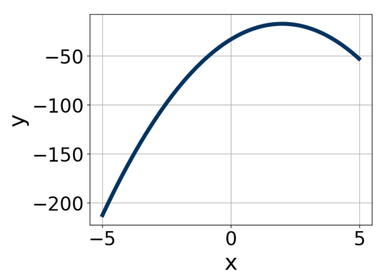
2. Graph the equation below.

$$f(x) = -(x-2)^2 - 17$$

A. 

C. 

B. 

D. 

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).

$$16x^2 + 11x - 7 = 0$$

A. $x_1 \in [-17.5, -16.8]$ and $x_2 \in [5.42, 6.53]$

B. $x_1 \in [-1.7, -0.6]$ and $x_2 \in [0.14, 0.79]$

C. $x_1 \in [-0.9, -0.1]$ and $x_2 \in [0.97, 2]$

D. $x_1 \in [-24.3, -22.7]$ and $x_2 \in [22.9, 24.15]$

E. There are no Real solutions.

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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 $x_1 \leq x_2$.

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

A. $x_1 \in [-8.86, -6.91]$ and $x_2 \in [42.81, 45.66]$

B. $x_1 \in [-4.28, -2.26]$ and $x_2 \in [-0.28, 0.96]$

C. $x_1 \in [-2.05, -1.05]$ and $x_2 \in [1.01, 3.85]$

D. $x_1 \in [-1.59, -0.74]$ and $x_2 \in [3.78, 5.11]$

E. $x_1 \in [-0.63, 0.56]$ and $x_2 \in [12.65, 14.01]$

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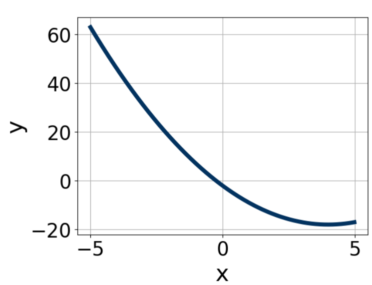
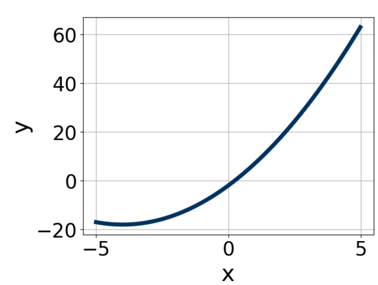
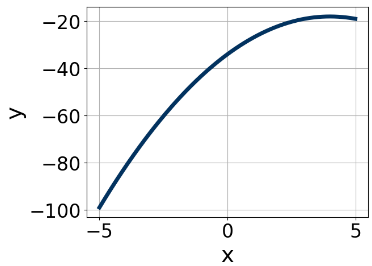
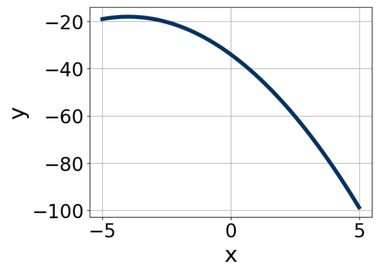
5. Graph the equation below.

$$f(x) = -(x+4)^2 - 18$$

A. 

B. 

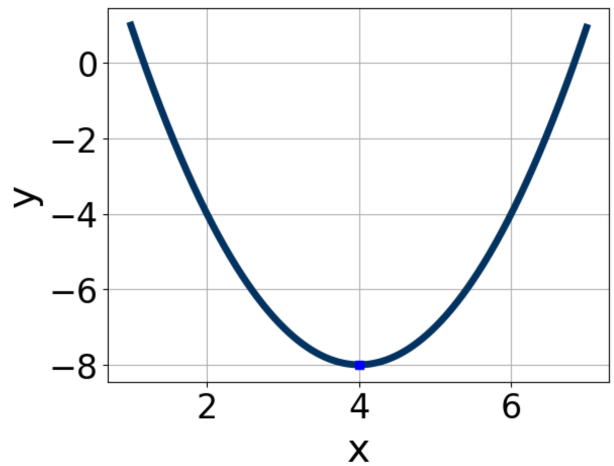
C. 

D. 

E. None of the above.

---

6. 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. $a \in [1, 4], \quad b \in [-11, -3],$ and $\quad c \in [8, 11]$

B. $a \in [1, 4], \quad b \in [8, 13],$ and $\quad c \in [8, 11]$

C. $a \in [1, 4], \quad b \in [8, 13],$ and $\quad c \in [22, 25]$

D. $a \in [-3, 0], \quad b \in [-11, -3],$ and $\quad c \in [-24, -22]$

E. $a \in [-3, 0], \quad b \in [8, 13],$ and $\quad c \in [-24, -22]$

---

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

$$24x^2 + 2x - 15$$

A. $a \in [-0.44, 1.63], \quad b \in [-19, -16], \quad c \in [0.5, 1.7], \text{ and } \quad d \in [18, 25]$

B. $a \in [10.54, 12.38], \quad b \in [-6, -2], \quad c \in [1.1, 2.8], \text{ and } \quad d \in [2, 11]$

C. $a \in [1.9, 2.97], \quad b \in [-6, -2], \quad c \in [11.4, 13.3], \text{ and } \quad d \in [2, 11]$

D. $a \in [3.31, 4.11], \quad b \in [-6, -2], \quad c \in [5.9, 6.7], \text{ and } \quad d \in [2, 11]$

E. None of the above.

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

$$24x^2 - 50x + 25$$

A. $a \in [4.81, 7.04], \quad b \in [-8, 3], \quad c \in [3.93, 5.07], \text{ and } \quad d \in [-8, -1]$

B. $a \in [0.53, 1.5], \quad b \in [-35, -27], \quad c \in [0.8, 1.21], \text{ and } \quad d \in [-20, -15]$

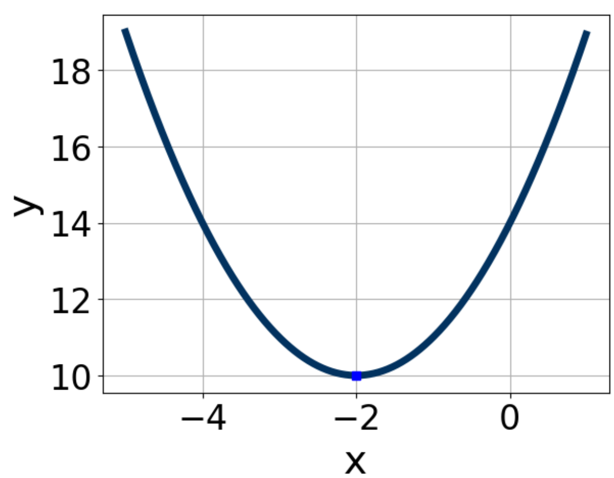
C. $a \in [1.95, 3.04], \quad b \in [-8, 3], \quad c \in [11.9, 12.68], \text{ and } \quad d \in [-8, -1]$

D. $a \in [10.69, 12.54], \quad b \in [-8, 3], \quad c \in [1.62, 2.42], \text{ and } \quad d \in [-8, -1]$

E. None of the above.

---

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. $a \in [-2.3, 0.2], \quad b \in [2, 6], \text{ and } \quad c \in [5, 8]$

B. $a \in [-0.4, 2.2], \quad b \in [-5, -3], \text{ and } \quad c \in [-8, -4]$

C. $a \in [-2.3, 0.2], \quad b \in [-5, -3], \text{ and } \quad c \in [5, 8]$

D. $a \in [-0.4, 2.2], \quad b \in [-5, -3], \text{ and } \quad c \in [12, 17]$

E. $a \in [-0.4, 2.2], \quad b \in [2, 6], \text{ and } \quad c \in [12, 17]$

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

$$16x^2 - 7x - 4 = 0$$

A. $x_1 \in [-1.32, -0.5]$ and $x_2 \in [-0.1, 0.43]$

B. $x_1 \in [-5.76, -5.19]$ and $x_2 \in [11.79, 12.39]$

C. $x_1 \in [-0.34, 0.84]$ and $x_2 \in [0.41, 0.79]$

D. $x_1 \in [-17.37, -16.91]$ and $x_2 \in [17.43, 17.69]$

E. There are no Real solutions.
