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

$$25x^2 + 50x + 24 = 0$$

A. $x_1 \in [-1.25, -0.9]$ and $x_2 \in [-0.8, -0.72]$

B. $x_1 \in [-1.93, -1.43]$ and $x_2 \in [-0.61, -0.57]$

C. $x_1 \in [-30.05, -29.95]$ and $x_2 \in [-20.26, -19.88]$

D. $x_1 \in [-3.85, -3.47]$ and $x_2 \in [-0.29, -0.23]$

E. $x_1 \in [-6.09, -5.93]$ and $x_2 \in [-0.22, 0.09]$

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

$$54x^2 - 75x + 25$$

A. $a \in [0.4, 2.3], \quad b \in [-46, -42], \quad c \in [-0.9, 2.6], \text{ and } \quad d \in [-32, -26]$

B. $a \in [16.5, 20.3], \quad b \in [-9, -3], \quad c \in [2.9, 3.3], \text{ and } \quad d \in [-5, -1]$

C. $a \in [1.6, 4], \quad b \in [-9, -3], \quad c \in [13.3, 20], \text{ and } \quad d \in [-5, -1]$

D. $a \in [8.1, 10.2], \quad b \in [-9, -3], \quad c \in [5.7, 6.9], \text{ and } \quad d \in [-5, -1]$

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).

$$-15x^2 - 15x + 3 = 0$$

A. $x_1 \in [-1.19, -0.36]$ and $x_2 \in [-0.2, 0.3]$

B. $x_1 \in [-0.26, 0.53]$ and $x_2 \in [0.7, 2.1]$

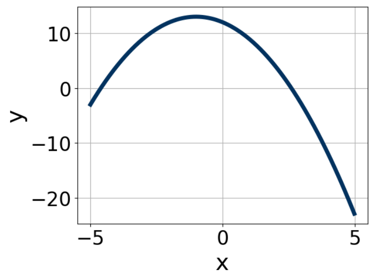
C. $x_1 \in [-3.2, -2.33]$ and $x_2 \in [16.8, 17.9]$

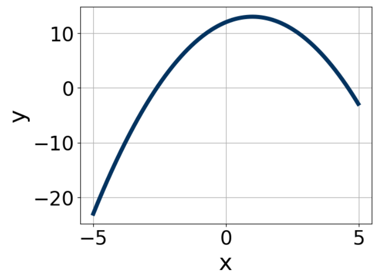
D. $x_1 \in [-21.48, -20.04]$ and $x_2 \in [19.1, 20.1]$

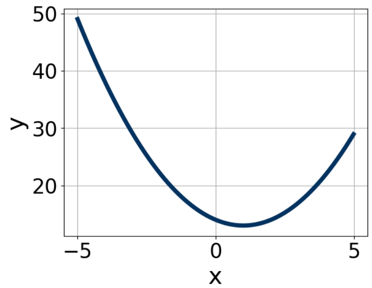
E. There are no Real solutions.

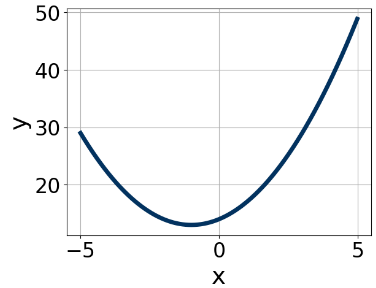
4. Graph the equation below.

$$f(x) = -(x-1)^2 + 13$$

A. 

C. 

B. 

D. 

E. None of the above.

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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).

$$-10x^2 + 9x + 3 = 0$$

A. $x_1 \in [-2.6, -0.4]$ and $x_2 \in [-0.47, 0.73]$

B. $x_1 \in [-1.1, 0.1]$ and $x_2 \in [1.04, 1.51]$

C. $x_1 \in [-12.2, -10.3]$ and $x_2 \in [1.76, 2.85]$

D. $x_1 \in [-14.9, -13.3]$ and $x_2 \in [14.42, 15.39]$

E. There are no Real solutions.

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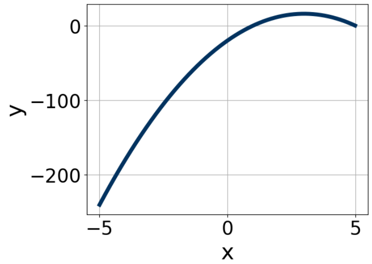
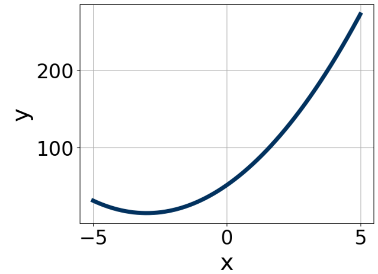
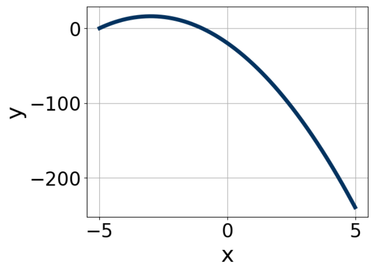
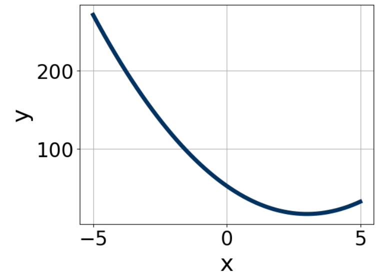
6. Graph the equation below.

$$f(x) = -(x+3)^2 + 16$$

A. 

C. 

B. 

D. 

E. None of the above.

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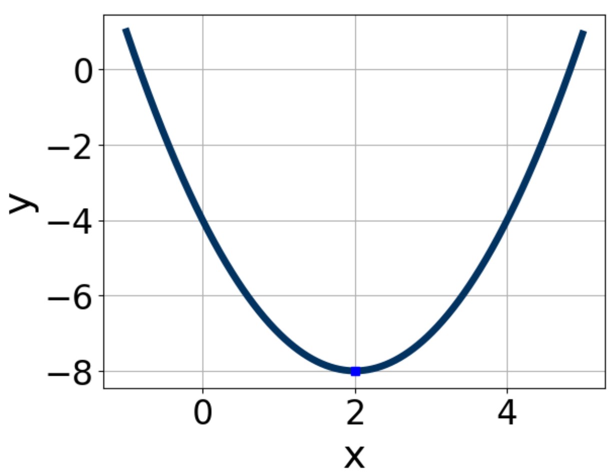
7. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [0.1, 1.1], \quad b \in [1, 5], \text{ and } \quad c \in [-5, -3]$

B. $a \in [0.1, 1.1], \quad b \in [1, 5], \text{ and } \quad c \in [12, 14]$

C. $a \in [-1.8, 0.5], \quad b \in [-6, -1], \text{ and } \quad c \in [-15, -10]$

D. $a \in [-1.8, 0.5], \quad b \in [1, 5], \text{ and } \quad c \in [-15, -10]$

E. $a \in [0.1, 1.1], \quad b \in [-6, -1], \text{ and } \quad c \in [-5, -3]$

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

$$25x^2 - 60x + 36 = 0$$

A. $x_1 \in [0.45, 0.8]$ and $x_2 \in [2.38, 2.46]$

B. $x_1 \in [1.06, 1.39]$ and $x_2 \in [0.97, 1.68]$

C. $x_1 \in [29.92, 30.05]$ and $x_2 \in [29.7, 30.44]$

D. $x_1 \in [0.21, 0.25]$ and $x_2 \in [5.85, 6.2]$

E. $x_1 \in [0.35, 0.51]$ and $x_2 \in [3.22, 4.29]$

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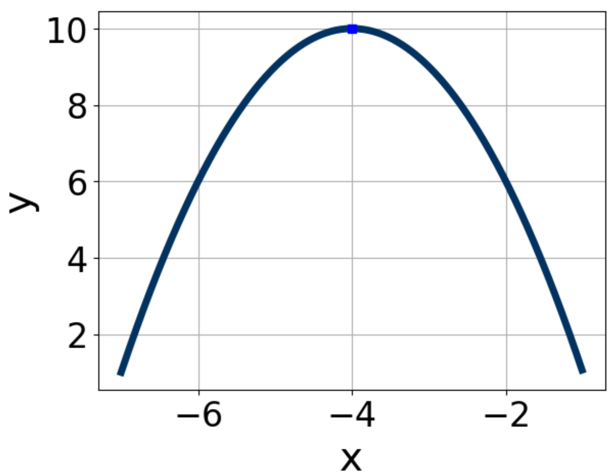
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and c belong to.



A. $a \in [-1.9, -0.6], \quad b \in [7, 9], \text{ and } \quad c \in [-30, -22]$

B. $a \in [-1.9, -0.6], \quad b \in [-8, -6], \text{ and } \quad c \in [-8, -5]$

C. $a \in [0.5, 2.5], \quad b \in [7, 9], \text{ and } \quad c \in [25, 27]$

D. $a \in [0.5, 2.5], \quad b \in [-8, -6], \text{ and } \quad c \in [25, 27]$

E. $a \in [-1.9, -0.6], \quad b \in [7, 9], \text{ and } \quad c \in [-8, -5]$

10. 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. $a \in [-0.58, 1.26], \quad b \in [28, 33], \quad c \in [-1.5, 1.4], \text{ and } \quad d \in [24, 32]$

B. $a \in [2.92, 3.63], \quad b \in [1, 10], \quad c \in [11.4, 13.7], \text{ and } \quad d \in [5, 10]$

C. $a \in [11.72, 12.59], \quad b \in [1, 10], \quad c \in [2.4, 3.8], \text{ and } \quad d \in [5, 10]$

D. $a \in [5.97, 6.04], \quad b \in [1, 10], \quad c \in [5.3, 8.8], \text{ and } \quad d \in [5, 10]$

E. None of the above.