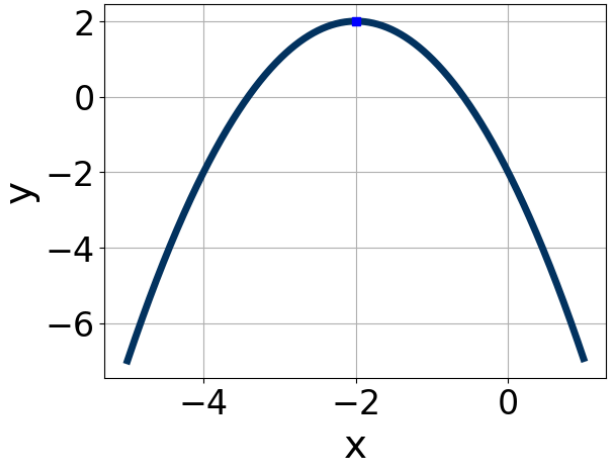
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-2.4, -0.7]$, $b \in [-5, -2]$, and $c \in [-2, 2]$

B. $a \in [-2.4, -0.7]$, $b \in [0, 6]$, and $c \in [-2, 2]$

C. $a \in [0.3, 2]$, $b \in [0, 6]$, and $c \in [6, 8]$

D. $a \in [0.3, 2]$, $b \in [-5, -2]$, and $c \in [6, 8]$

E. $a \in [-2.4, -0.7]$, $b \in [0, 6]$, and $c \in [-8, -5]$

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

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

A. $a \in [16.3, 19.4]$, $b \in [-8, -3]$, $c \in [0, 2]$, and $d \in [2, 9]$

B. $a \in [2.8, 3.5]$, $b \in [-8, -3]$, $c \in [6, 10]$, and $d \in [2, 9]$

C. $a \in [-2.2, 1.3]$, $b \in [-21, -19]$, $c \in [0, 2]$, and $d \in [11, 21]$

D. $a \in [5.4, 9.7]$, $b \in [-8, -3]$, $c \in [2, 6]$, and $d \in [2, 9]$

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).

$$14x^2 + 10x - 7 = 0$$

A. $x_1 \in [-18.2, -14.7]$ and $x_2 \in [5.64, 6.2]$

B. $x_1 \in [-0.8, -0.1]$ and $x_2 \in [0.96, 2.01]$

C. $x_1 \in [-2.1, -0.8]$ and $x_2 \in [-0.2, 0.87]$

D. $x_1 \in [-24, -22.3]$ and $x_2 \in [21.55, 22.01]$

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 $x_1 \leq x_2$.

$$10x^2 - 53x + 36 = 0$$

A. $x_1 \in [0.86, 0.91]$ and $x_2 \in [3.17, 4.26]$

B. $x_1 \in [0.19, 0.32]$ and $x_2 \in [13.5, 13.94]$

C. $x_1 \in [7.99, 8.09]$ and $x_2 \in [44.48, 45.43]$

D. $x_1 \in [1.54, 1.67]$ and $x_2 \in [2.08, 2.32]$

E. $x_1 \in [0.7, 0.83]$ and $x_2 \in [4.42, 4.87]$

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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).

$$16x^2 + 13x - 2 = 0$$

A. $x_1 \in [-16.56, -15]$ and $x_2 \in [1.7, 4.2]$

B. $x_1 \in [-0.62, 0.47]$ and $x_2 \in [0.6, 2.1]$

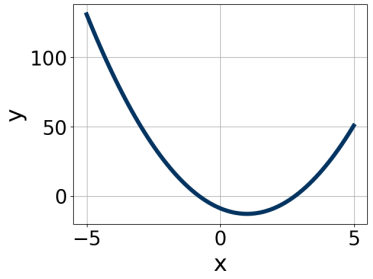
C. $x_1 \in [-18.41, -17.46]$ and $x_2 \in [15.1, 17.6]$

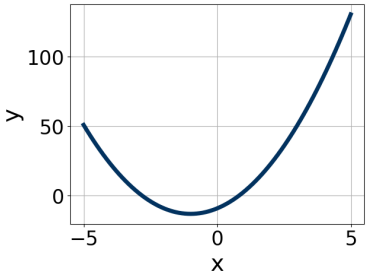
D. $x_1 \in [-1.29, -0.67]$ and $x_2 \in [-0.3, 0.5]$

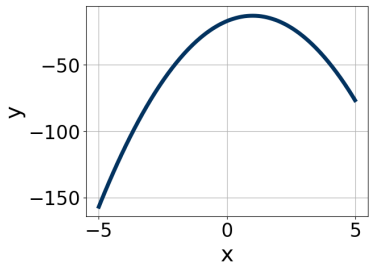
E. There are no Real solutions.

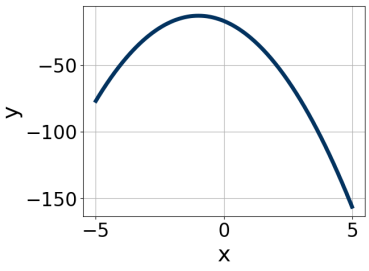
6. Graph the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.

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

$$36x^2 - 25x - 25$$

A. $a \in [7.4, 10]$, $b \in [-8, 1]$, $c \in [3.4, 5.1]$, and $d \in [5, 7]$

B. $a \in [3.1, 6]$, $b \in [-8, 1]$, $c \in [7.8, 9.2]$, and $d \in [5, 7]$

C. $a \in [-0.3, 3.2]$, $b \in [-8, 1]$, $c \in [24.6, 27.4]$, and $d \in [5, 7]$

D. $a \in [-0.3, 3.2]$, $b \in [-45, -40]$, $c \in [-1.8, 1.8]$, and $d \in [18, 23]$

E. None of the above.

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

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

A. $x_1 \in [-1.93, -0.85]$ and $x_2 \in [1.06, 1.39]$

B. $x_1 \in [-5.12, -3.17]$ and $x_2 \in [-0.03, 0.57]$

C. $x_1 \in [-0.94, -0.1]$ and $x_2 \in [3.38, 3.79]$

D. $x_1 \in [-3.16, -1.49]$ and $x_2 \in [0.41, 1.16]$

E. $x_1 \in [-21.25, -18.48]$ and $x_2 \in [17.82, 18.2]$

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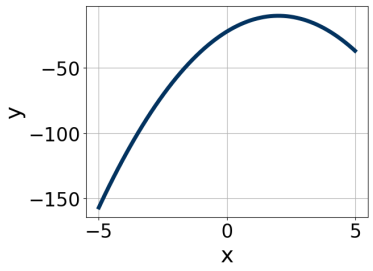
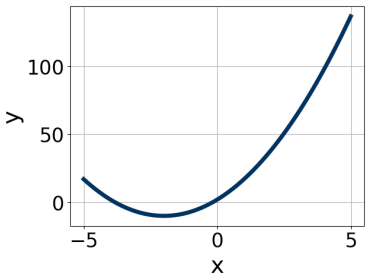
9. Graph the equation below.

$$f(x) = -(x-2)^2 - 10$$

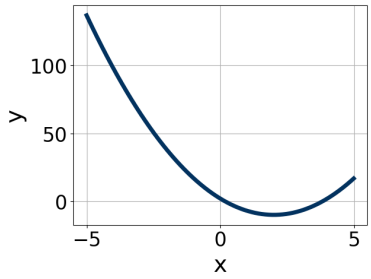
A.



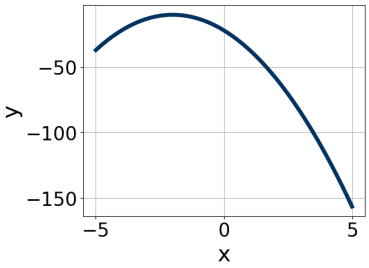
C.



B.



D.



E. None of the above.

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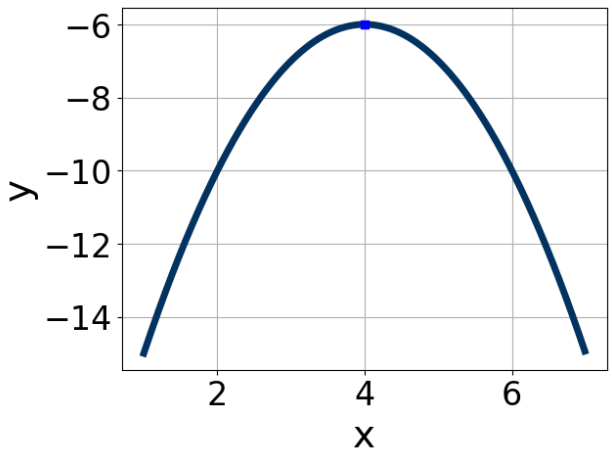
10. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1, 0]$, $b \in [8, 10]$, and $c \in [-23, -19]$

B. $a \in [0, 5]$, $b \in [-9, 0]$, and $c \in [7, 12]$

C. $a \in [-1, 0]$, $b \in [-9, 0]$, and $c \in [-23, -19]$

D. $a \in [0, 5]$, $b \in [8, 10]$, and $c \in [7, 12]$

E. $a \in [-1, 0]$, $b \in [-9, 0]$, and $c \in [-12, -9]$
