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

$$25x^2 + 10x - 24 = 0$$

A. $x_1 \in [-30.12, -29.49]$ and $x_2 \in [19.79, 20.11]$

B. $x_1 \in [-0.78, -0.19]$ and $x_2 \in [1.31, 1.63]$

C. $x_1 \in [-2.94, -2.19]$ and $x_2 \in [0.21, 0.43]$

D. $x_1 \in [-6.3, -5.5]$ and $x_2 \in [-0.11, 0.28]$

E. $x_1 \in [-1.38, -1.07]$ and $x_2 \in [0.59, 1.09]$

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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).

$$14x^2 - 13x - 7 = 0$$

A. $x_1 \in [-2.1, -0.8]$ and $x_2 \in [0.16, 0.55]$

B. $x_1 \in [-23.4, -20.7]$ and $x_2 \in [23.17, 24.84]$

C. $x_1 \in [-0.5, 0.7]$ and $x_2 \in [0.93, 1.72]$

D. $x_1 \in [-6.1, -4.3]$ and $x_2 \in [18.11, 18.88]$

E. There are no Real solutions.

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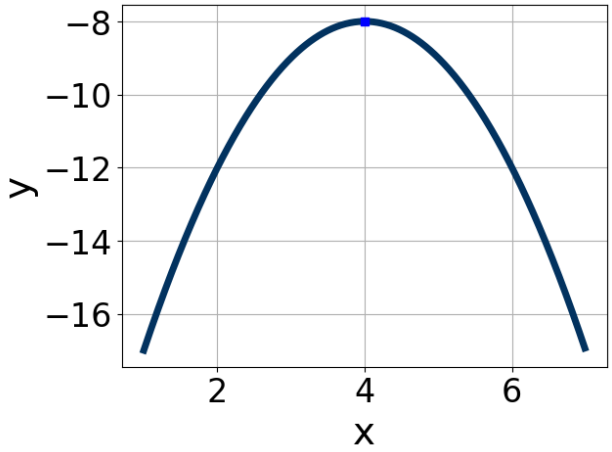
3. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1, 0]$, $b \in [8, 9]$, and $c \in [-24, -23]$

B. $a \in [-1, 0]$, $b \in [-8, -5]$, and $c \in [-24, -23]$

C. $a \in [0, 2]$, $b \in [8, 9]$, and $c \in [8, 12]$

D. $a \in [0, 2]$, $b \in [-8, -5]$, and $c \in [8, 12]$

E. $a \in [-1, 0]$, $b \in [-8, -5]$, and $c \in [-10, -6]$

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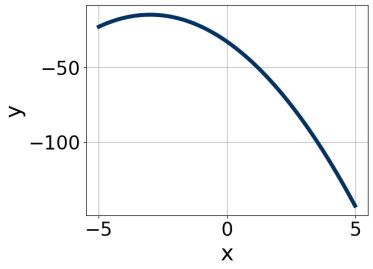
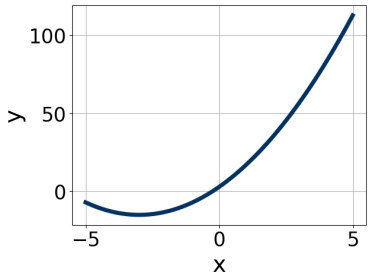
4. Graph the equation below.

$$f(x) = (x - 3)^2 - 15$$

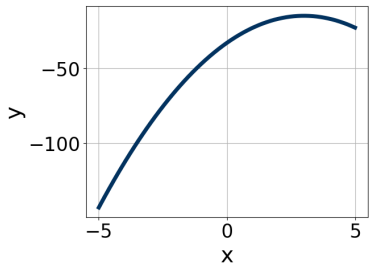
A.



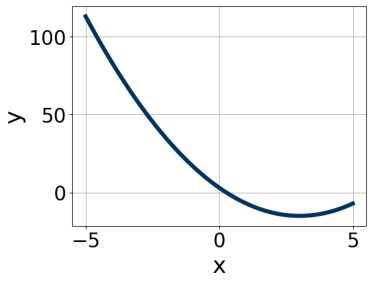
C.



B.

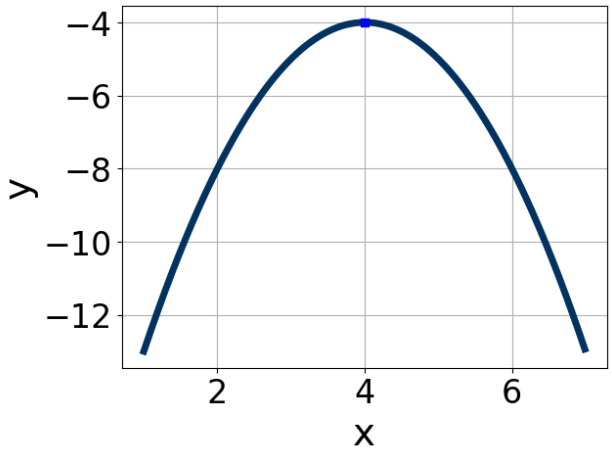


D.



E. None of the above.

5. 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. $a \in [-1.2, 0.1]$, $b \in [-8, -7]$, and $c \in [-12, -8]$

B. $a \in [-1.2, 0.1]$, $b \in [-8, -7]$, and $c \in [-20, -19]$

C. $a \in [0.8, 1.5]$, $b \in [-8, -7]$, and $c \in [10, 15]$

D. $a \in [-1.2, 0.1]$, $b \in [8, 10]$, and $c \in [-20, -19]$

E. $a \in [0.8, 1.5]$, $b \in [8, 10]$, and $c \in [10, 15]$

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

$$-14x^2 - 7x + 9 = 0$$

A. $x_1 \in [-23.92, -23.13]$ and $x_2 \in [21.7, 23.6]$

B. $x_1 \in [-0.62, -0.58]$ and $x_2 \in [0.6, 2.3]$

C. $x_1 \in [-8.52, -7.67]$ and $x_2 \in [13.5, 15.4]$

D. $x_1 \in [-1.24, -0.71]$ and $x_2 \in [0, 0.8]$

E. There are no Real solutions.

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

$$36x^2 + 53x + 10$$

A. $a \in [16.4, 18.5]$, $b \in [-2, 5]$, $c \in [1.22, 2.47]$, and $d \in [3, 11]$

B. $a \in [2, 6.3]$, $b \in [-2, 5]$, $c \in [10.79, 12.38]$, and $d \in [3, 11]$

C. $a \in [0.8, 2.1]$, $b \in [8, 10]$, $c \in [-0.82, 1.03]$, and $d \in [40, 47]$

D. $a \in [6.9, 10]$, $b \in [-2, 5]$, $c \in [3.28, 4.4]$, and $d \in [3, 11]$

E. None of the above.

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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 $x_1 \leq x_2$.

$$15x^2 - 38x + 24 = 0$$

A. $x_1 \in [0.66, 0.76]$ and $x_2 \in [2.28, 2.56]$

B. $x_1 \in [17.93, 18.08]$ and $x_2 \in [19.97, 20.17]$

C. $x_1 \in [1.15, 1.46]$ and $x_2 \in [1.21, 1.54]$

D. $x_1 \in [0.3, 0.44]$ and $x_2 \in [3.91, 4.31]$

E. $x_1 \in [0.44, 0.63]$ and $x_2 \in [2.45, 2.76]$

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

$$54x^2 + 33x - 10$$

A. $a \in [7, 16]$, $b \in [-2, 3]$, $c \in [3.8, 7.8]$, and $d \in [4, 6]$

B. $a \in [20, 32]$, $b \in [-2, 3]$, $c \in [1.2, 3.8]$, and $d \in [4, 6]$

C. $a \in [-2, 2]$, $b \in [-12, -10]$, $c \in [-0.9, 1.6]$, and $d \in [39, 48]$

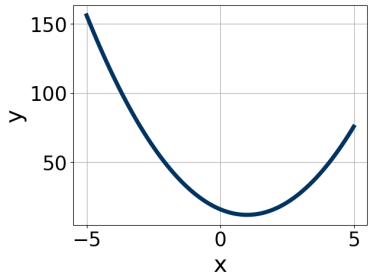
D. $a \in [2, 7]$, $b \in [-2, 3]$, $c \in [17.9, 20.8]$, and $d \in [4, 6]$

E. None of the above.

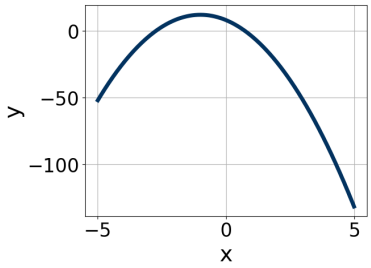
10. Graph the equation below.

$$f(x) = (x-1)^2 + 12$$

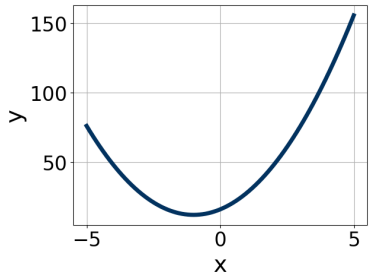
A.



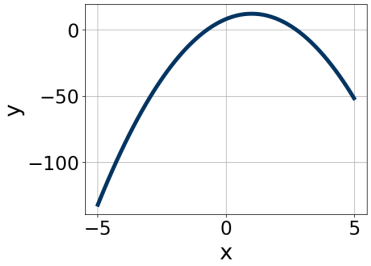
C.



B.



D.



E. None of the above.