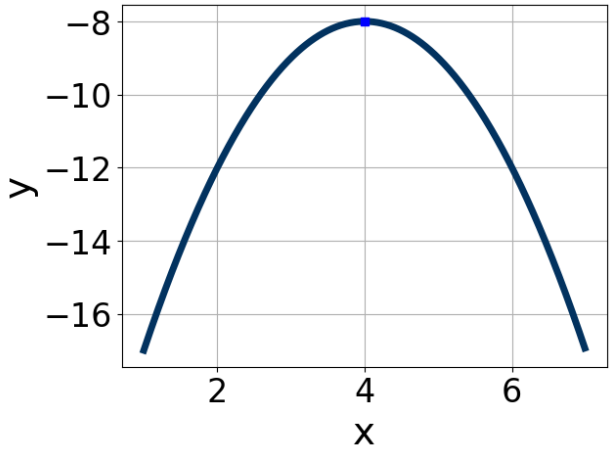
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1.9, -0.7]$, $b \in [-9, -7]$, and $c \in [-11, -7]$

B. $a \in [0.5, 2.7]$, $b \in [-9, -7]$, and $c \in [8, 10]$

C. $a \in [0.5, 2.7]$, $b \in [7, 9]$, and $c \in [8, 10]$

D. $a \in [-1.9, -0.7]$, $b \in [7, 9]$, and $c \in [-24, -23]$

E. $a \in [-1.9, -0.7]$, $b \in [-9, -7]$, and $c \in [-24, -23]$

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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).

$$-19x^2 - 7x + 4 = 0$$

A. $x_1 \in [-0.54, -0.25]$ and $x_2 \in [0.33, 1.18]$

B. $x_1 \in [-6.11, -5.58]$ and $x_2 \in [11.82, 13.16]$

C. $x_1 \in [-1.23, -0.64]$ and $x_2 \in [-0.1, 0.64]$

D. $x_1 \in [-19.5, -18.77]$ and $x_2 \in [18.17, 18.65]$

E. There are no Real solutions.

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

$$36x^2 + 7x - 15$$

A. $a \in [20, 29]$, $b \in [-14, -3]$, $c \in [0, 2]$, and $d \in [3, 10]$

B. $a \in [6, 14]$, $b \in [-14, -3]$, $c \in [4, 6]$, and $d \in [3, 10]$

C. $a \in [3, 6]$, $b \in [-14, -3]$, $c \in [7, 13]$, and $d \in [3, 10]$

D. $a \in [-2, 2]$, $b \in [-26, -13]$, $c \in [0, 2]$, and $d \in [20, 35]$

E. None of the above.

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

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

A. $x_1 \in [-2.72, -2.13]$ and $x_2 \in [2.87, 3.19]$

B. $x_1 \in [-0.87, -0.05]$ and $x_2 \in [-0.29, 0.2]$

C. $x_1 \in [4.43, 4.94]$ and $x_2 \in [6.92, 8.14]$

D. $x_1 \in [-0.06, 0.32]$ and $x_2 \in [-0.13, 0.86]$

E. There are no Real solutions.

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

$$15x^2 + 7x - 36 = 0$$

A. $x_1 \in [-9.4, -7.43]$ and $x_2 \in [-0.13, 0.5]$

B. $x_1 \in [-4.13, -3.08]$ and $x_2 \in [0.55, 0.75]$

C. $x_1 \in [-27.33, -25.94]$ and $x_2 \in [19.92, 20.04]$

D. $x_1 \in [-2.4, -1.57]$ and $x_2 \in [1.1, 1.79]$

E. $x_1 \in [-0.82, 0.12]$ and $x_2 \in [3.98, 4.46]$

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

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

A. $x_1 \in [-3.27, -2.6]$ and $x_2 \in [-0.62, -0.56]$

B. $x_1 \in [-6.19, -5.45]$ and $x_2 \in [-0.34, -0.23]$

C. $x_1 \in [-1.38, -0.87]$ and $x_2 \in [-1.33, -1.19]$

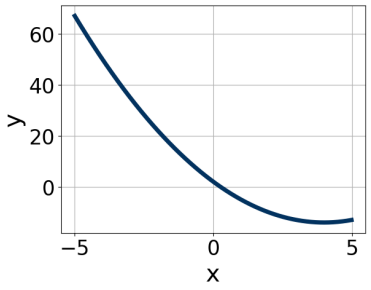
D. $x_1 \in [-20.19, -18.82]$ and $x_2 \in [-18.04, -17.94]$

E. $x_1 \in [-2.41, -1.51]$ and $x_2 \in [-0.69, -0.63]$

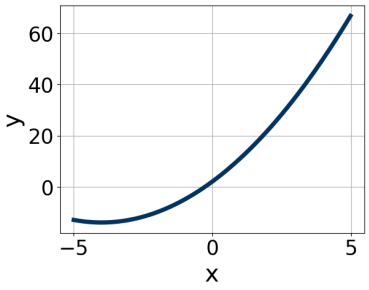
7. Graph the equation below.

$$f(x) = (x + 4)^2 - 14$$

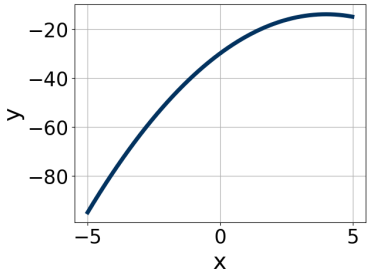
A.



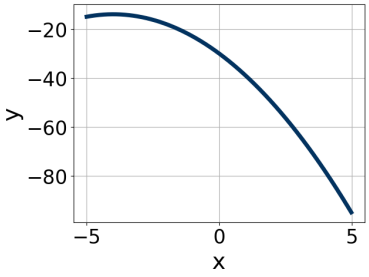
C.



B.



D.



E. None of the above.

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

$$54x^2 + 15x - 25$$

A. $a \in [2.8, 4.7]$, $b \in [-5, 1]$, $c \in [17.5, 18.9]$, and $d \in [3, 10]$

B. $a \in [0.6, 2.7]$, $b \in [-30, -26]$, $c \in [-1.5, 1.3]$, and $d \in [43, 48]$

C. $a \in [6.8, 10.1]$, $b \in [-5, 1]$, $c \in [4.1, 6.5]$, and $d \in [3, 10]$

D. $a \in [26, 27.8]$, $b \in [-5, 1]$, $c \in [1.4, 3.6]$, and $d \in [3, 10]$

E. None of the above.

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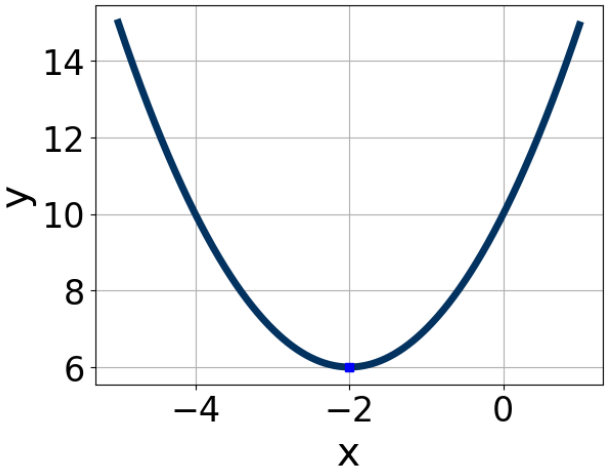
9. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [1, 4]$, $b \in [2, 7]$, and $c \in [7, 14]$

B. $a \in [-1, 0]$, $b \in [2, 7]$, and $c \in [0, 5]$

C. $a \in [1, 4]$, $b \in [-5, -2]$, and $c \in [-3, 1]$

D. $a \in [-1, 0]$, $b \in [-5, -2]$, and $c \in [0, 5]$

E. $a \in [1, 4]$, $b \in [-5, -2]$, and $c \in [7, 14]$

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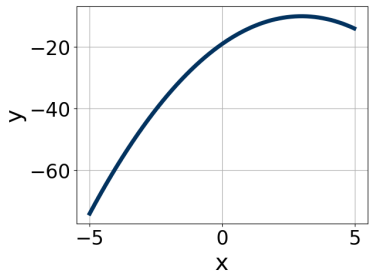
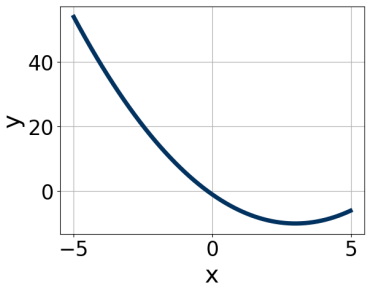
10. Graph the equation below.

$$f(x) = (x - 3)^2 - 10$$

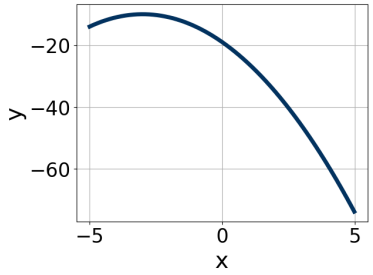
A.



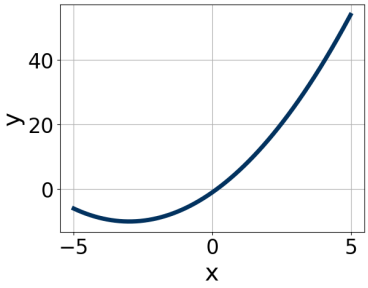
C.



B.



D.



E. None of the above.
