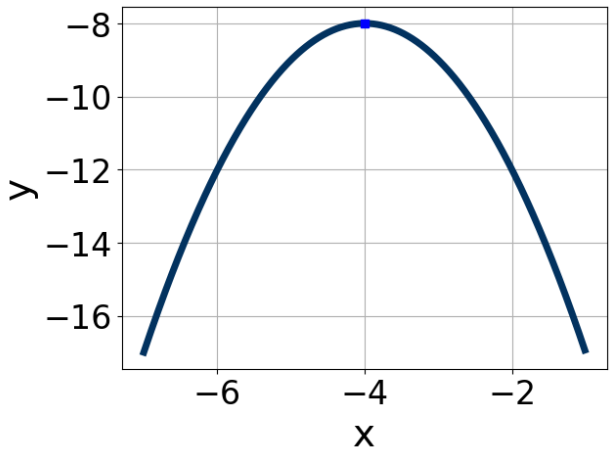
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-1.4, 0.1]$, $b \in [-9, -7]$, and $c \in [-28, -22]$

B. $a \in [0.7, 1.8]$, $b \in [7, 11]$, and $c \in [8, 10]$

C. $a \in [0.7, 1.8]$, $b \in [-9, -7]$, and $c \in [8, 10]$

D. $a \in [-1.4, 0.1]$, $b \in [7, 11]$, and $c \in [-28, -22]$

E. $a \in [-1.4, 0.1]$, $b \in [7, 11]$, and $c \in [-8, -4]$

---

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

$$16x^2 - 32x + 15$$

A. $a \in [2.4, 6.4]$, $b \in [-8, -2]$, $c \in [3.33, 5.5]$, and $d \in [-3, 4]$

B. $a \in [6.4, 11.5]$, $b \in [-8, -2]$, $c \in [1.84, 2.76]$, and $d \in [-3, 4]$

C. $a \in [-1.2, 1.5]$, $b \in [-23, -19]$, $c \in [0.68, 1.66]$, and $d \in [-14, -10]$

D. $a \in [1.5, 2.8]$, $b \in [-8, -2]$, $c \in [6.85, 8.23]$, and $d \in [-3, 4]$

E. None of the above.

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

$$36x^2 + 60x + 25$$

A. $a \in [16.95, 18.02]$, $b \in [4, 6]$, $c \in [1.7, 2.5]$, and $d \in [3, 6]$

B. $a \in [5.95, 6.23]$, $b \in [4, 6]$, $c \in [5.59, 6.05]$, and $d \in [3, 6]$

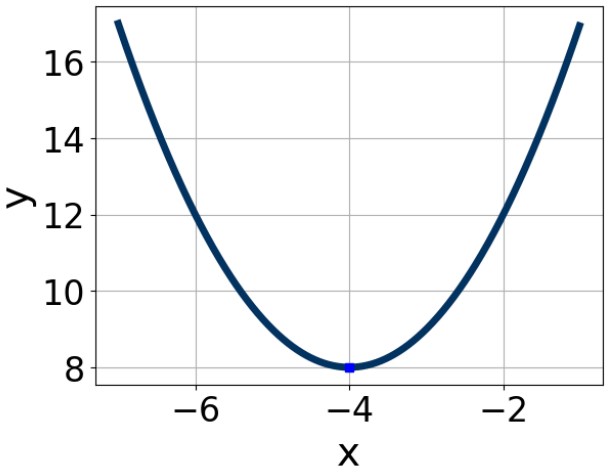
C. $a \in [1.06, 2.49]$, $b \in [4, 6]$, $c \in [16.72, 18.55]$, and $d \in [3, 6]$

D. $a \in [-0.31, 1.65]$, $b \in [30, 38]$, $c \in [-1.03, 1.65]$, and $d \in [26, 32]$

E. None of the above.

---

4. 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. $a \in [-2, 0]$, $b \in [-8, -6]$, and $c \in [-8, -6]$

B. $a \in [1, 2]$, $b \in [7, 11]$, and $c \in [23, 25]$

C. $a \in [-2, 0]$, $b \in [7, 11]$, and $c \in [-8, -6]$

D. $a \in [1, 2]$, $b \in [-8, -6]$, and $c \in [23, 25]$

E. $a \in [1, 2]$, $b \in [-8, -6]$, and $c \in [8, 10]$

---

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

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

A. $x_1 \in [19.9, 20.15]$ and $x_2 \in [29.5, 30.02]$

B. $x_1 \in [0.27, 0.51]$ and $x_2 \in [2.05, 2.58]$

C. $x_1 \in [0.49, 0.62]$ and $x_2 \in [1.24, 1.98]$

D. $x_1 \in [0.2, 0.39]$ and $x_2 \in [3.75, 4.61]$

E. $x_1 \in [0.69, 0.82]$ and $x_2 \in [0.82, 1.36]$

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

$$-18x^2 - 12x + 2 = 0$$

A. $x_1 \in [-0.7, 1.2]$ and $x_2 \in [0.22, 0.98]$

B. $x_1 \in [-1.5, -0.5]$ and $x_2 \in [-0.85, 0.42]$

C. $x_1 \in [-17.5, -16.4]$ and $x_2 \in [16.16, 16.82]$

D. $x_1 \in [-3.4, -1]$ and $x_2 \in [14.4, 14.58]$

E. There are no Real solutions.

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

$$-11x^2 + 14x - 2 = 0$$

A. $x_1 \in [-11.76, -8.76]$ and $x_2 \in [10.6, 13.6]$

B. $x_1 \in [0.16, 4.16]$ and $x_2 \in [0.5, 1.6]$

C. $x_1 \in [-2.11, -0.11]$ and $x_2 \in [-0.8, 0.9]$

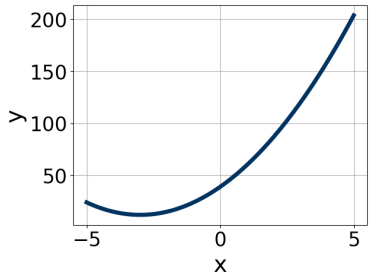
D. $x_1 \in [-13.2, -10.2]$ and $x_2 \in [-2.4, -0.9]$

E. There are no Real solutions.

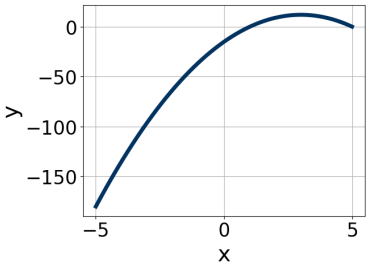
8. Graph the equation below.

$$f(x) = (x+3)^2 + 12$$

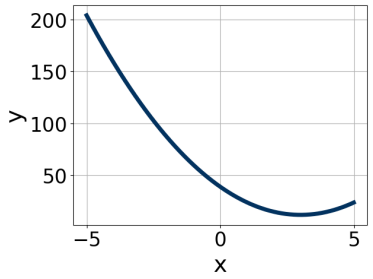
A.



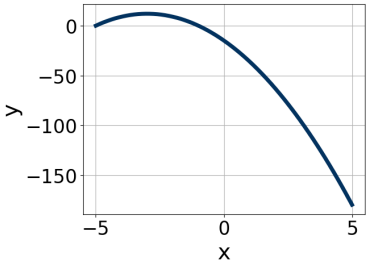
C.



B.



D.

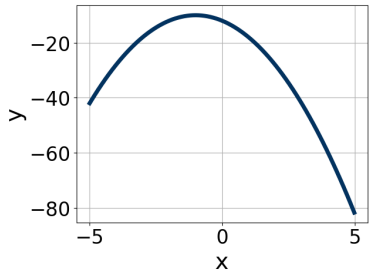


E. None of the above.

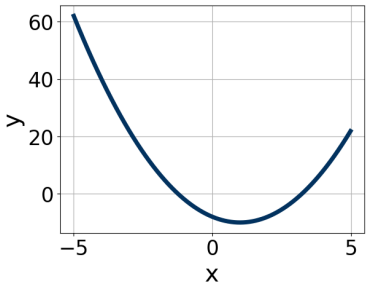
9. Graph the equation below.

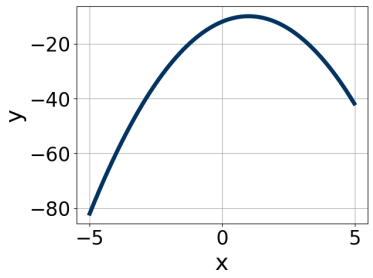
$$f(x) = (x-1)^2 - 10$$

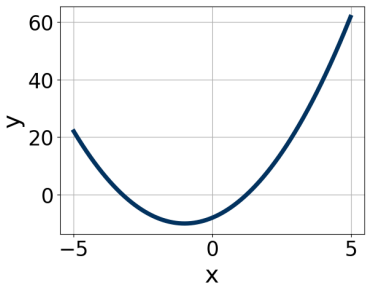
A.



B.



C. 

D. 

E. None of the above.

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10. 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. $x_1 \in [1.18, 1.37]$ and $x_2 \in [-0.03, 1.83]$

B. $x_1 \in [0.1, 0.32]$ and $x_2 \in [5.96, 6.91]$

C. $x_1 \in [0.57, 0.64]$ and $x_2 \in [1.46, 3.25]$

D. $x_1 \in [29.81, 30.09]$ and $x_2 \in [28.84, 31.15]$

E. $x_1 \in [0.29, 0.42]$ and $x_2 \in [3.49, 4.12]$
