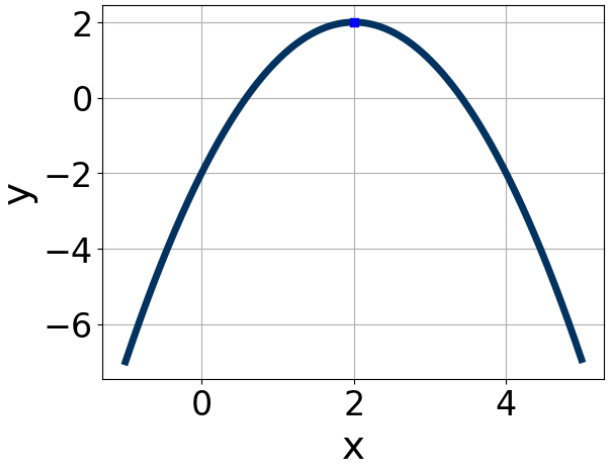
1. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-2.6, 0.2]$, $b \in [4, 5]$, and $c \in [-5, 1]$

B. $a \in [-2.6, 0.2]$, $b \in [-4, -2]$, and $c \in [-5, 1]$

C. $a \in [-0.8, 2.4]$, $b \in [-4, -2]$, and $c \in [5, 7]$

D. $a \in [-0.8, 2.4]$, $b \in [4, 5]$, and $c \in [5, 7]$

E. $a \in [-2.6, 0.2]$, $b \in [-4, -2]$, and $c \in [-8, -5]$

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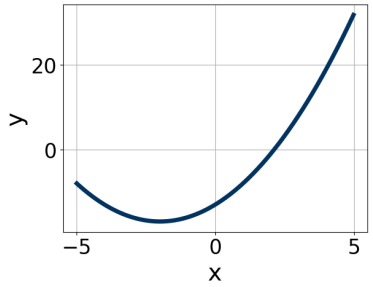
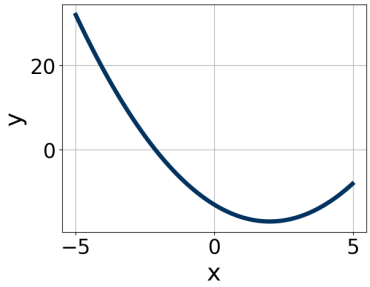
2. Graph the equation below.

$$f(x) = (x + 2)^2 - 17$$

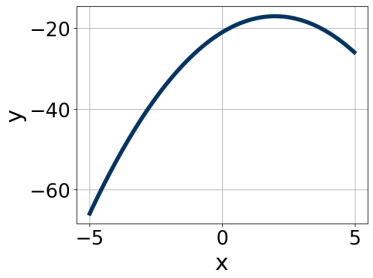
A.



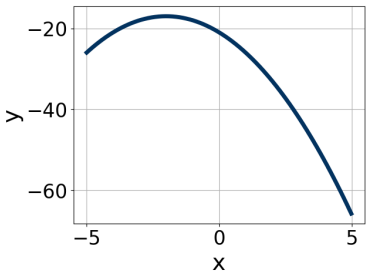
B.



C.



D.



E. None of the above.

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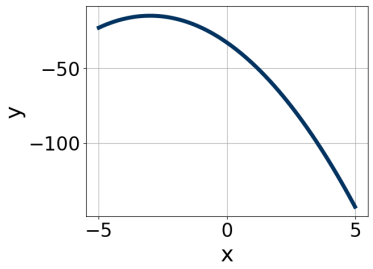
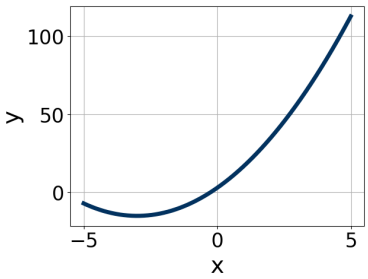
3. Graph the equation below.

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

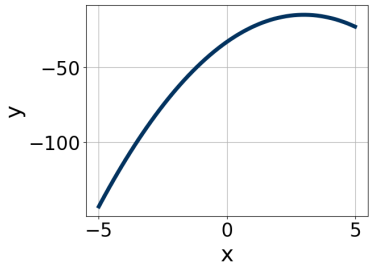
A.



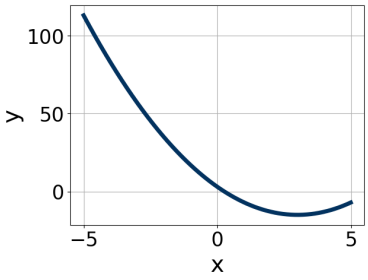
C.



B.



D.



E. None of the above.

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4. 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. $a \in [3, 5.5]$, $b \in [-5, -1]$, $c \in [8.5, 9.5]$, and $d \in [4, 8]$

B. $a \in [9.6, 14.2]$, $b \in [-5, -1]$, $c \in [2.6, 3.2]$, and $d \in [4, 8]$

C. $a \in [1.9, 2.2]$, $b \in [-5, -1]$, $c \in [17.5, 21.4]$, and $d \in [4, 8]$

D. $a \in [0, 1.6]$, $b \in [-29, -24]$, $c \in [0.9, 1.2]$, and $d \in [18, 22]$

E. None of the above.

---

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

$$36x^2 + 47x + 15$$

A. $a \in [0.59, 1.39]$, $b \in [18, 26]$, $c \in [0.5, 1.2]$, and $d \in [27, 31]$

B. $a \in [11.63, 12.83]$, $b \in [2, 7]$, $c \in [1.9, 3.3]$, and $d \in [4, 10]$

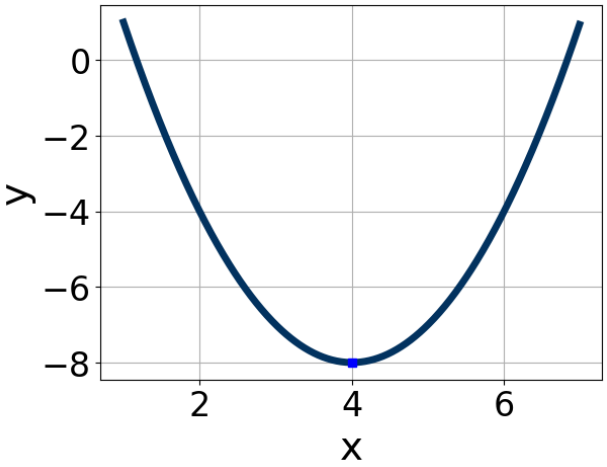
C. $a \in [1.43, 3.38]$, $b \in [2, 7]$, $c \in [17.8, 19.2]$, and $d \in [4, 10]$

D. $a \in [3.54, 4.16]$, $b \in [2, 7]$, $c \in [8, 10.3]$, and $d \in [4, 10]$

E. None of the above.

---

6. 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. $a \in [0, 3]$, $b \in [4, 11]$, and $c \in [24, 25]$

B. $a \in [0, 3]$, $b \in [4, 11]$, and $c \in [4, 9]$

C. $a \in [-1, 0]$, $b \in [4, 11]$, and $c \in [-25, -22]$

D. $a \in [0, 3], \quad b \in [-8, -7], \text{ and } \quad c \in [4, 9]$

E. $a \in [-1, 0], \quad b \in [-8, -7], \text{ and } \quad c \in [-25, -22]$

---

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

$$-20x^2 + 7x + 8 = 0$$

A. $x_1 \in [-0.56, -0.1]$ and $x_2 \in [0.8, 0.86]$

B. $x_1 \in [-16.86, -16.46]$ and $x_2 \in [9.38, 9.96]$

C. $x_1 \in [-1.38, -0.63]$ and $x_2 \in [0.41, 0.61]$

D. $x_1 \in [-26.19, -25.79]$ and $x_2 \in [26.14, 26.68]$

E. There are no Real solutions.

---

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

$$20x^2 - 69x + 54 = 0$$

A. $x_1 \in [0.68, 0.9]$ and $x_2 \in [2.73, 3.76]$

B. $x_1 \in [23.95, 24.04]$ and $x_2 \in [44.61, 45.16]$

C. $x_1 \in [0.37, 0.44]$ and $x_2 \in [6.25, 6.81]$

D. $x_1 \in [1.17, 1.22]$ and $x_2 \in [2.19, 2.29]$

E. $x_1 \in [0.42, 0.57]$ and $x_2 \in [5.82, 6.18]$

---

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

$$10x^2 - 57x + 54 = 0$$

A. $x_1 \in [0.73, 0.97]$ and $x_2 \in [5.31, 7.23]$

B. $x_1 \in [1, 1.48]$ and $x_2 \in [4.04, 4.62]$

C. $x_1 \in [11.68, 12.21]$ and $x_2 \in [44.23, 46.73]$

D. $x_1 \in [0.06, 0.66]$ and $x_2 \in [13.37, 13.76]$

E. $x_1 \in [2.21, 2.42]$ and $x_2 \in [1.93, 3.85]$

---

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

$$19x^2 - 9x - 8 = 0$$

A. $x_1 \in [-9.54, -8.49]$ and $x_2 \in [17.31, 18.22]$

B. $x_1 \in [-1.18, -0.48]$ and $x_2 \in [0.27, 0.68]$

C. $x_1 \in [-26.08, -25.91]$ and $x_2 \in [25.83, 27.62]$

D. $x_1 \in [-0.51, -0.07]$ and $x_2 \in [0.78, 1.65]$

E. There are no Real solutions.
