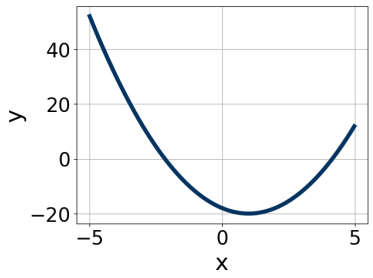
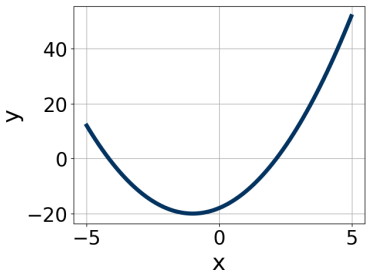
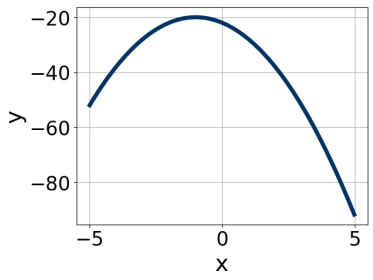
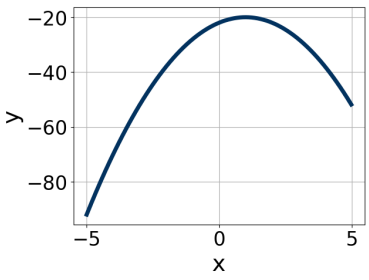
1. Graph the equation below.

$$f(x) = (x+1)^2 - 20$$

A. 

C. 

B. 

D. 

E. None of the above.

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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).

$$-19x^2 + 11x + 7 = 0$$

A. $x_1 \in [-0.9, 0.1]$ and $x_2 \in [0.64, 1.06]$

B. $x_1 \in [-20.3, -17.7]$ and $x_2 \in [6.99, 7.51]$

C. $x_1 \in [-2.2, -0.9]$ and $x_2 \in [-0.02, 0.46]$

D. $x_1 \in [-26.7, -22.7]$ and $x_2 \in [25.79, 25.87]$

E. There are no Real solutions.

---

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. $a \in [3.6, 6.2]$, $b \in [1, 11]$, $c \in [5.88, 6.6]$, and $d \in [2, 7]$

B. $a \in [0.8, 1.8]$, $b \in [30, 35]$, $c \in [0.21, 1.16]$, and $d \in [28, 33]$

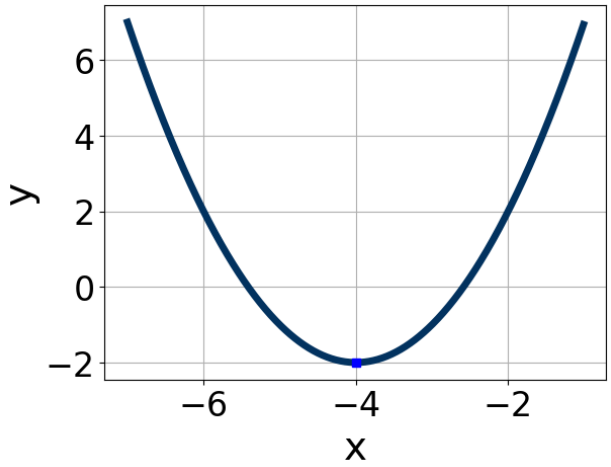
C. $a \in [16.6, 18.5]$, $b \in [1, 11]$, $c \in [1.34, 2.33]$, and $d \in [2, 7]$

D. $a \in [1.7, 2.1]$, $b \in [1, 11]$, $c \in [17.99, 18.26]$, and $d \in [2, 7]$

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. $a \in [0, 3]$, $b \in [-10, -5]$, and $c \in [10, 15]$

B. $a \in [-4, 0]$, $b \in [-10, -5]$, and $c \in [-20, -17]$

C. $a \in [0, 3]$, $b \in [6, 10]$, and $c \in [10, 15]$

D. $a \in [0, 3]$, $b \in [-10, -5]$, and $c \in [18, 20]$

E. $a \in [-4, 0]$, $b \in [6, 10]$, and $c \in [-20, -17]$

---

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

$$15x^2 - 47x + 36 = 0$$

A. $x_1 \in [1.12, 1.37]$ and $x_2 \in [1.72, 2.55]$

B. $x_1 \in [0.5, 0.63]$ and $x_2 \in [3.9, 4]$

C. $x_1 \in [0.42, 0.54]$ and $x_2 \in [5.36, 5.55]$

D. $x_1 \in [19.8, 20.1]$ and $x_2 \in [26.38, 27.31]$

E. $x_1 \in [0.76, 1]$ and $x_2 \in [2.48, 2.73]$

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6. 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. $a \in [11.7, 14.4]$, $b \in [-11, -4]$, $c \in [2.4, 3.2]$, and $d \in [-9, -2]$

B. $a \in [1.9, 3.9]$, $b \in [-11, -4]$, $c \in [17.8, 19.6]$, and $d \in [-9, -2]$

C. $a \in [5.6, 8.4]$, $b \in [-11, -4]$, $c \in [4.9, 7.3]$, and $d \in [-9, -2]$

D. $a \in [0.5, 1.5]$, $b \in [-31, -26]$, $c \in [-0.7, 1.6]$, and $d \in [-30, -26]$

E. None of the above.

---

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

$$14x^2 + 9x - 3 = 0$$

A. $x_1 \in [-1.97, -0.26]$ and $x_2 \in [-0.1, 0.8]$

B. $x_1 \in [-12.81, -12.15]$ and $x_2 \in [1.8, 4.1]$

C. $x_1 \in [-0.38, -0.11]$ and $x_2 \in [0.3, 2.1]$

D. $x_1 \in [-16.76, -15.75]$ and $x_2 \in [15.2, 16.8]$

E. There are no Real solutions.

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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 $x_1 \leq x_2$.

$$12x^2 + 43x + 36 = 0$$

A. $x_1 \in [-27.88, -26.97]$ and $x_2 \in [-16.12, -15.86]$

B. $x_1 \in [-2.28, -1.8]$ and $x_2 \in [-1.43, -1.26]$

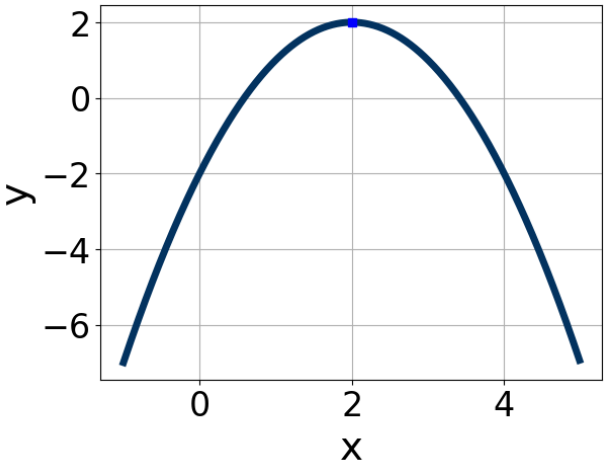
C. $x_1 \in [-3.29, -2.58]$ and $x_2 \in [-1.31, -0.94]$

D. $x_1 \in [-6.8, -5.55]$ and $x_2 \in [-0.45, -0.43]$

E. $x_1 \in [-9.3, -8.79]$ and $x_2 \in [-0.36, -0.18]$

---

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. $a \in [-1.8, -0.7]$, $b \in [4, 6]$, and $c \in [-2, 1]$

B. $a \in [-1.8, -0.7]$, $b \in [-7, 1]$, and $c \in [-2, 1]$

C. $a \in [-0.6, 1.6]$, $b \in [4, 6]$, and $c \in [2, 8]$

D. $a \in [-1.8, -0.7]$, $b \in [-7, 1]$, and $c \in [-7, -5]$

E. $a \in [-0.6, 1.6]$, $b \in [-7, 1]$, and $c \in [2, 8]$

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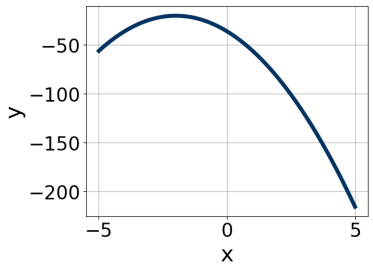
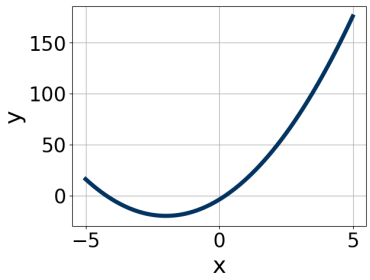
10. Graph the equation below.

$$f(x) = (x + 2)^2 - 20$$

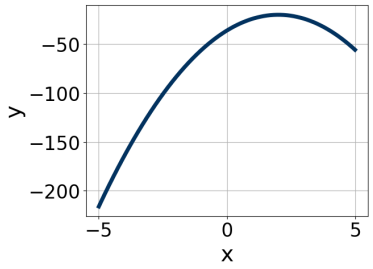
A.



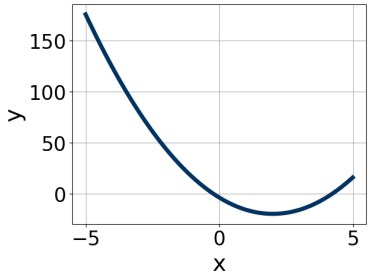
C.



B.



D.



E. None of the above.
