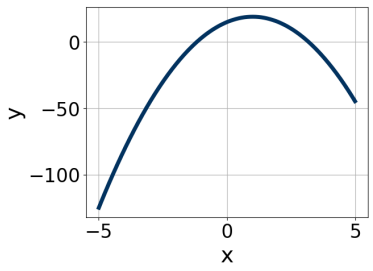
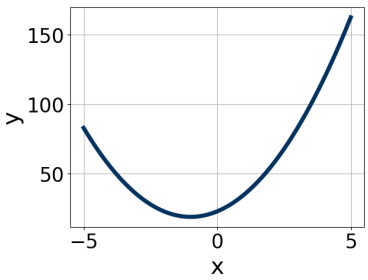
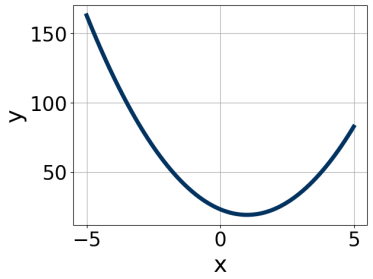
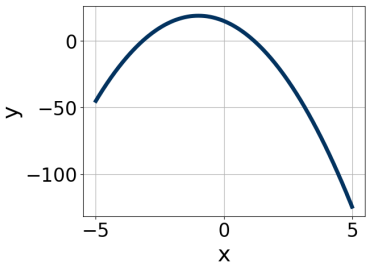
1. Graph the equation below.

$$f(x) = -(x-1)^2 + 19$$

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).

$$11x^2 + 8x - 2 = 0$$

A. $x_1 \in [-2.7, -0.2]$ and $x_2 \in [0.03, 0.45]$

B. $x_1 \in [-11.9, -9.7]$ and $x_2 \in [1.48, 2.46]$

C. $x_1 \in [-12.8, -11.8]$ and $x_2 \in [11.45, 12.85]$

D. $x_1 \in [-0.8, 0.3]$ and $x_2 \in [0.85, 1.43]$

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. $a \in [4.67, 7.27]$, $b \in [-1, 6]$, $c \in [4.3, 7.1]$, and $d \in [1, 6]$

B. $a \in [2.94, 3.22]$, $b \in [-1, 6]$, $c \in [9.3, 13.9]$, and $d \in [1, 6]$

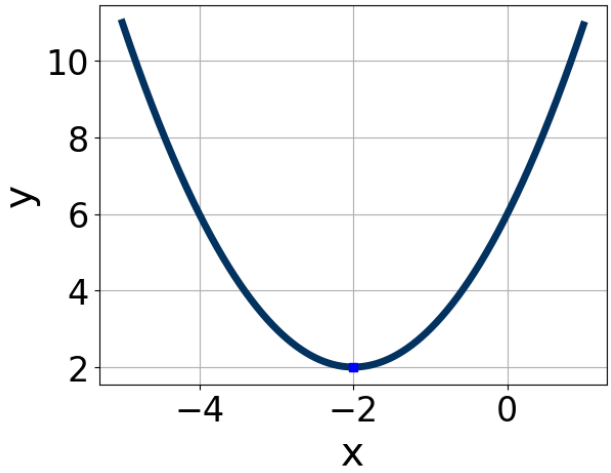
C. $a \in [0.14, 1.37]$, $b \in [25, 31]$, $c \in [-0.7, 1.3]$, and $d \in [30, 33]$

D. $a \in [17.89, 18.48]$, $b \in [-1, 6]$, $c \in [1.7, 5.1]$, and $d \in [1, 6]$

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. $a \in [-1.8, -0.8]$, $b \in [2, 7]$, and $c \in [-5, 0]$

B. $a \in [-0.3, 2]$, $b \in [-6, 0]$, and $c \in [-1, 3]$

C. $a \in [-1.8, -0.8]$, $b \in [-6, 0]$, and $c \in [-5, 0]$

D. $a \in [-0.3, 2]$, $b \in [2, 7]$, and $c \in [3, 10]$

E. $a \in [-0.3, 2]$, $b \in [-6, 0]$, and $c \in [3, 10]$

---

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

$$25x^2 + 25x - 36 = 0$$

A. $x_1 \in [-47.4, -42.3]$ and $x_2 \in [19.99, 20.18]$

B. $x_1 \in [-2.9, -1.2]$ and $x_2 \in [0.78, 0.89]$

C. $x_1 \in [-11.9, -8.9]$ and $x_2 \in [0.1, 0.18]$

D. $x_1 \in [-7.8, -3.8]$ and $x_2 \in [0.18, 0.35]$

E. $x_1 \in [-1.1, 0.4]$ and $x_2 \in [1.54, 1.78]$

---

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

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

A. $a \in [-0.41, 1.86]$, $b \in [-49, -41]$, $c \in [0, 2.5]$, and $d \in [-15, -9]$

B. $a \in [1.79, 2.44]$, $b \in [-9, -1]$, $c \in [25.8, 27.1]$, and $d \in [-2, 2]$

C. $a \in [17.05, 18.7]$, $b \in [-9, -1]$, $c \in [1.5, 3.1]$, and $d \in [-2, 2]$

D. $a \in [4.82, 6.09]$, $b \in [-9, -1]$, $c \in [7.7, 11]$, and $d \in [-2, 2]$

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).

$$15x^2 + 7x - 6 = 0$$

A. $x_1 \in [-0.85, 0.51]$ and $x_2 \in [0.6, 1.1]$

B. $x_1 \in [-21.23, -19.29]$ and $x_2 \in [19, 20.2]$

C. $x_1 \in [-0.96, -0.79]$ and $x_2 \in [-0.5, 0.6]$

D. $x_1 \in [-14.25, -13.19]$ and $x_2 \in [5.2, 7.2]$

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 $x_1 \leq x_2$.

$$8x^2 + 18x - 81 = 0$$

A. $x_1 \in [-7.5, -3.5]$ and $x_2 \in [1.77, 2.46]$

B. $x_1 \in [-1.5, 3.5]$ and $x_2 \in [6.02, 7.51]$

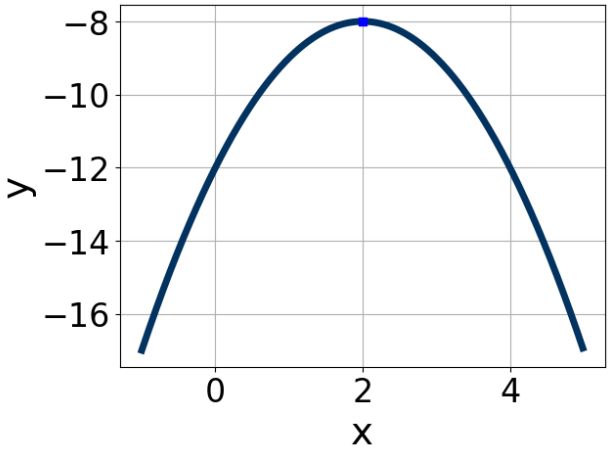
C. $x_1 \in [-9, -7]$ and $x_2 \in [0.81, 1.17]$

D. $x_1 \in [-14.5, -9.5]$ and $x_2 \in [-0, 0.87]$

E. $x_1 \in [-40, -30]$ and $x_2 \in [17.2, 18.23]$

---

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. $a \in [1, 7]$, $b \in [-5, -1]$, and $c \in [-7, -3]$

B. $a \in [-2, 0]$, $b \in [2, 8]$, and $c \in [-12, -10]$

C. $a \in [-2, 0]$, $b \in [-5, -1]$, and $c \in [4, 7]$

D. $a \in [-2, 0]$, $b \in [-5, -1]$, and $c \in [-12, -10]$

E. $a \in [1, 7]$, $b \in [2, 8]$, and $c \in [-7, -3]$

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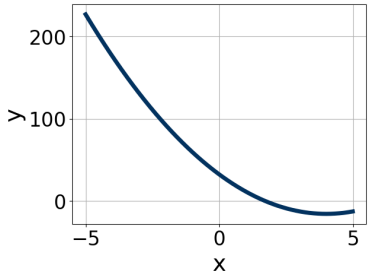
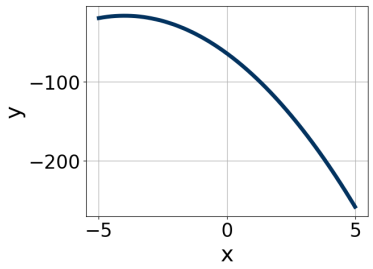
10. Graph the equation below.

$$f(x) = (x - 4)^2 - 16$$

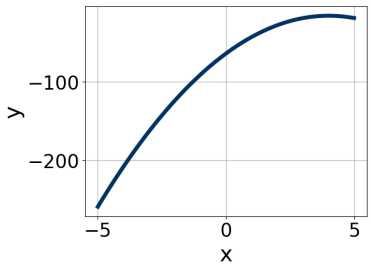
A



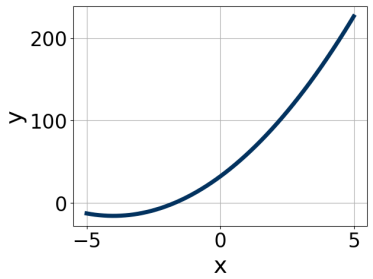
B.



D.



C.



E. None of the above.
