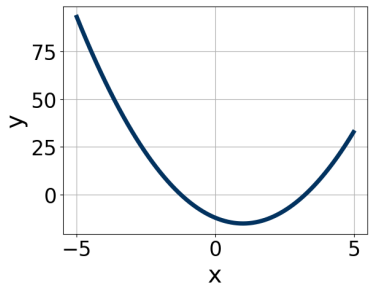
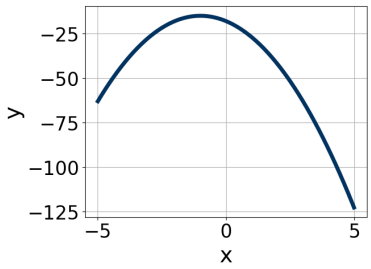
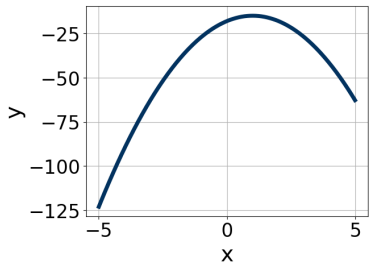
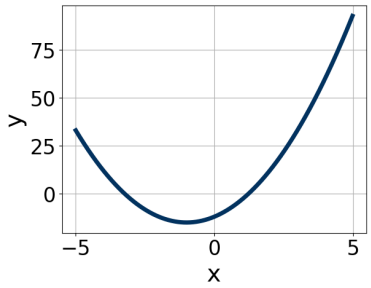
1. Graph the equation below.

$$f(x) = (x-1)^2 - 15$$

A.


C.


B.


D.


E. None of the above.

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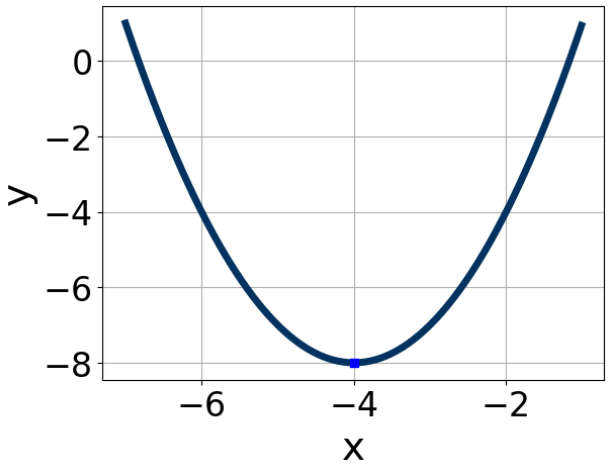
2. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-0.4, 1.6]$, $b \in [-9, -4]$, and $c \in [8, 12]$

B. $a \in [-0.4, 1.6]$, $b \in [7, 10]$, and $c \in [8, 12]$

C. $a \in [-1.7, -0.1]$, $b \in [-9, -4]$, and $c \in [-24, -23]$

D. $a \in [-1.7, -0.1]$, $b \in [7, 10]$, and $c \in [-24, -23]$

E. $a \in [-0.4, 1.6]$, $b \in [-9, -4]$, and $c \in [23, 27]$

---

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

$$12x^2 + 13x - 2 = 0$$

A. $x_1 \in [-1.6, -0.2]$ and $x_2 \in [-0.26, 0.36]$

B. $x_1 \in [-15.3, -13.8]$ and $x_2 \in [1.47, 1.92]$

C. $x_1 \in [-19.2, -16.7]$ and $x_2 \in [15.19, 15.93]$

D. $x_1 \in [-0.5, 1]$ and $x_2 \in [0.82, 1.51]$

E. There are no Real solutions.

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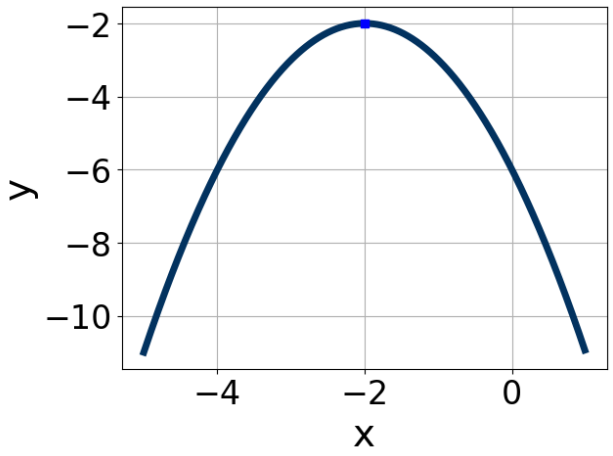
4. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-3.7, 0.2]$, $b \in [-6, -2]$, and $c \in [-7, -4]$

B. $a \in [-3.7, 0.2]$, $b \in [4, 5]$, and $c \in [-7, -4]$

C. $a \in [0.5, 1.7]$, $b \in [4, 5]$, and $c \in [-1, 4]$

D. $a \in [-3.7, 0.2]$, $b \in [4, 5]$, and $c \in [-3, -1]$

E. $a \in [0.5, 1.7]$, $b \in [-6, -2]$, and $c \in [-1, 4]$

---

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

$$15x^2 + 8x - 16 = 0$$

A. $x_1 \in [-1.6, -1.02]$ and $x_2 \in [0.75, 0.81]$

B. $x_1 \in [-4.63, -3.81]$ and $x_2 \in [0.18, 0.28]$

C. $x_1 \in [-0.83, -0.34]$ and $x_2 \in [1.42, 1.63]$

D. $x_1 \in [-3.17, -2.18]$ and $x_2 \in [0.34, 0.45]$

E. $x_1 \in [-20.03, -18.91]$ and $x_2 \in [11.89, 12.11]$

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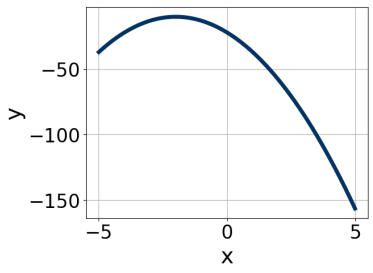
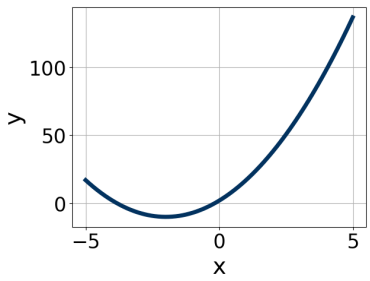
6. Graph the equation below.

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

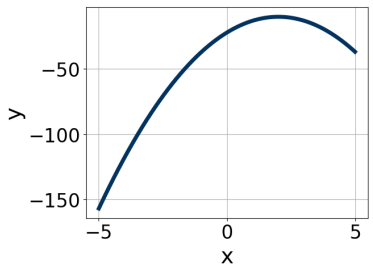
A.



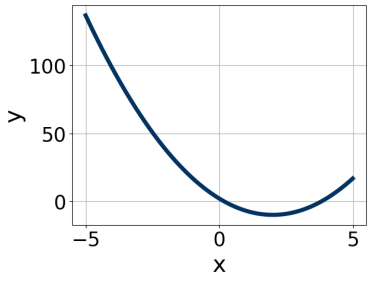
C.



B.



D.



E. None of the above.

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7. 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. $a \in [11.98, 13.44]$, $b \in [0, 7]$, $c \in [2.63, 3.3]$, and $d \in [4, 7]$

B. $a \in [5.89, 6.22]$, $b \in [0, 7]$, $c \in [5.93, 6.28]$, and $d \in [4, 7]$

C. $a \in [0.79, 1.62]$, $b \in [25, 38]$, $c \in [0.75, 1.3]$, and $d \in [22, 35]$

D. $a \in [1.44, 2.64]$, $b \in [0, 7]$, $c \in [16.62, 18.14]$, and $d \in [4, 7]$

E. None of the above.

---

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

$$10x^2 + 33x - 54 = 0$$

A. $x_1 \in [-12.3, -8.6]$ and $x_2 \in [0.48, 0.64]$

B. $x_1 \in [-14.8, -10.5]$ and $x_2 \in [0.2, 0.51]$

C. $x_1 \in [-2, 0.9]$ and $x_2 \in [3.53, 3.92]$

D. $x_1 \in [-45.2, -43.1]$ and $x_2 \in [11.9, 12.08]$

E. $x_1 \in [-5.8, -4.4]$ and $x_2 \in [0.98, 1.47]$

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

$$14x^2 - 10x - 9 = 0$$

A. $x_1 \in [-7.7, -5.8]$ and $x_2 \in [16.82, 17.78]$

B. $x_1 \in [-25.4, -22.8]$ and $x_2 \in [24.71, 25.49]$

C. $x_1 \in [-2.9, -0.8]$ and $x_2 \in [-0.4, 0.6]$

D. $x_1 \in [-1.2, 0.6]$ and $x_2 \in [0.84, 1.41]$

E. There are no Real solutions.

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

$$16x^2 - 8x - 15$$

A. $a \in [1.34, 2.46]$, $b \in [-5, -3]$, $c \in [6.68, 8.99]$, and $d \in [1, 7]$

B. $a \in [0.33, 1.65]$, $b \in [-22, -16]$, $c \in [0.48, 1.14]$, and $d \in [11, 13]$

C. $a \in [2.7, 5.54]$, $b \in [-5, -3]$, $c \in [3.67, 5.5]$, and $d \in [1, 7]$

D. $a \in [6.75, 8.17]$, $b \in [-5, -3]$, $c \in [1.65, 2.71]$, and $d \in [1, 7]$

E. None of the above.