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

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

A. $a \in [0.27, 1.15]$, $b \in [-30, -25]$, $c \in [0.97, 1.27]$, and $d \in [-20, -18]$

B. $a \in [2.93, 3.48]$, $b \in [-5, -3]$, $c \in [6.6, 10.14]$, and $d \in [-7, -2]$

C. $a \in [11.17, 13.83]$, $b \in [-5, -3]$, $c \in [1.68, 2.07]$, and $d \in [-7, -2]$

D. $a \in [5.38, 7.01]$, $b \in [-5, -3]$, $c \in [3.48, 4.82]$, and $d \in [-7, -2]$

E. None of the above.

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2. 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. $a \in [0.8, 1.1]$, $b \in [30, 32]$, $c \in [0.3, 1.9]$, and $d \in [26, 33]$

B. $a \in [1.9, 4.8]$, $b \in [3, 8]$, $c \in [10.4, 14.9]$, and $d \in [-3, 6]$

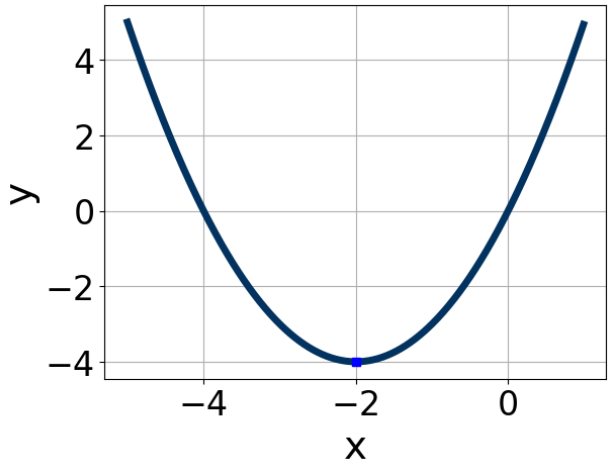
C. $a \in [5.3, 7.9]$, $b \in [3, 8]$, $c \in [5.1, 6.9]$, and $d \in [-3, 6]$

D. $a \in [11.3, 12.9]$, $b \in [3, 8]$, $c \in [2.4, 5.4]$, and $d \in [-3, 6]$

E. None of the above.

---

3. 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. $a \in [-1.4, 0.1]$, $b \in [2, 5]$, and $c \in [-9, -6]$

B. $a \in [0.7, 1.2]$, $b \in [-4, 1]$, and $c \in [-2, 1]$

C. $a \in [0.7, 1.2]$, $b \in [-4, 1]$, and $c \in [7, 12]$

D. $a \in [0.7, 1.2]$, $b \in [2, 5]$, and $c \in [-2, 1]$

E. $a \in [-1.4, 0.1]$, $b \in [-4, 1]$, and $c \in [-9, -6]$

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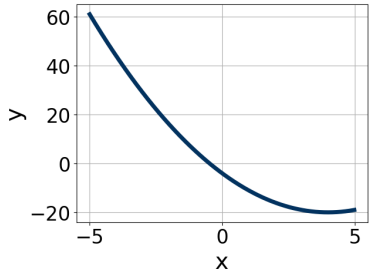
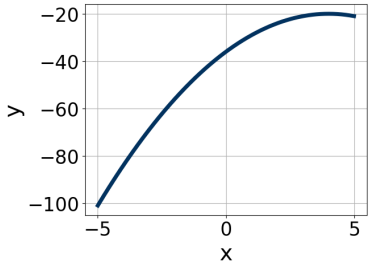
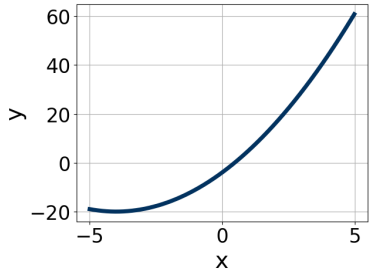
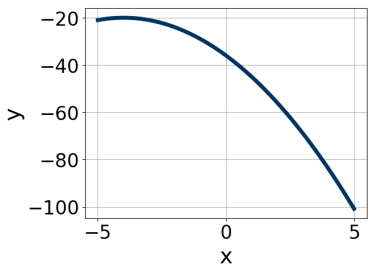
4. Graph the equation below.

$$f(x) = (x + 4)^2 - 20$$

A.


C.


B.


D.


E. None of the above.

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

$$25x^2 - 10x - 24 = 0$$

A. $x_1 \in [-0.46, -0.33]$ and $x_2 \in [2.32, 2.44]$

B. $x_1 \in [-4.16, -3.87]$ and $x_2 \in [0.16, 0.35]$

C. $x_1 \in [-20.02, -19.95]$ and $x_2 \in [29.99, 30.09]$

D. $x_1 \in [-1.22, -0.45]$ and $x_2 \in [1.04, 1.28]$

E. $x_1 \in [-2.58, -2.18]$ and $x_2 \in [0.34, 0.41]$

---

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

$$18x^2 + 11x - 5 = 0$$

A. $x_1 \in [-22.86, -21.28]$ and $x_2 \in [20.6, 24]$

B. $x_1 \in [-1.63, -0.7]$ and $x_2 \in [-0.2, 0.9]$

C. $x_1 \in [-16.69, -16.24]$ and $x_2 \in [4.3, 6.1]$

D. $x_1 \in [-0.52, -0.05]$ and $x_2 \in [0.4, 1.9]$

E. There are no Real solutions.

---

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

$$25x^2 + 10x - 24 = 0$$

A. $x_1 \in [-3.65, -3.51]$ and $x_2 \in [0.21, 0.42]$

B. $x_1 \in [-0.63, 0.05]$ and $x_2 \in [1.36, 1.79]$

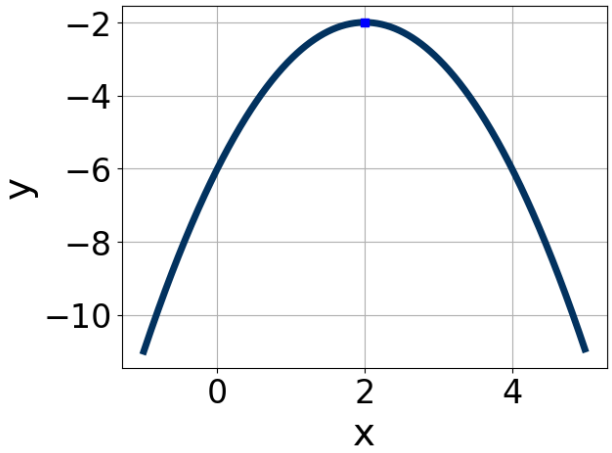
C. $x_1 \in [-30.25, -29.65]$ and $x_2 \in [19.96, 20.2]$

D. $x_1 \in [-1.49, -0.78]$ and $x_2 \in [0.64, 0.9]$

E. $x_1 \in [-6.28, -5.58]$ and $x_2 \in [-0.07, 0.23]$

---

8. 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. $a \in [-4, 0]$, $b \in [-6, -1]$, and $c \in [-4, 1]$

B. $a \in [-4, 0]$, $b \in [-6, -1]$, and $c \in [-8, -5]$

C. $a \in [-4, 0]$, $b \in [4, 5]$, and $c \in [-8, -5]$

D. $a \in [1, 3]$, $b \in [-6, -1]$, and $c \in [0, 5]$

E. $a \in [1, 3]$, $b \in [4, 5]$, and $c \in [0, 5]$

---

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

$$-11x^2 - 15x + 8 = 0$$

A. $x_1 \in [-4, -1.1]$ and $x_2 \in [0.1, 1.6]$

B. $x_1 \in [-25.1, -24]$ and $x_2 \in [22.8, 26.2]$

C. $x_1 \in [-4.9, -4.1]$ and $x_2 \in [18.4, 20]$

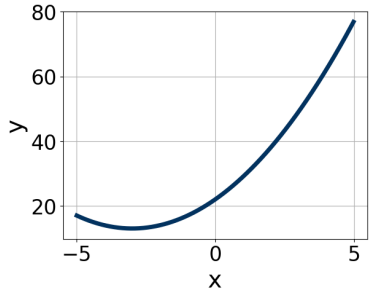
D. $x_1 \in [-0.7, 2]$ and $x_2 \in [1, 2.1]$

E. There are no Real solutions.

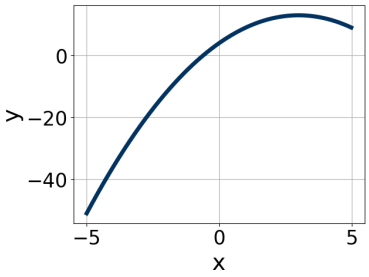
10. Graph the equation below.

$$f(x) = (x-3)^2 + 13$$

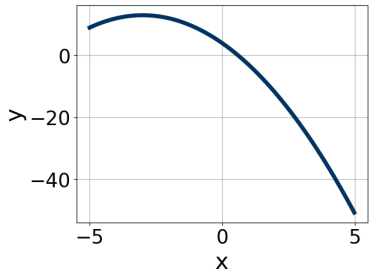
A.



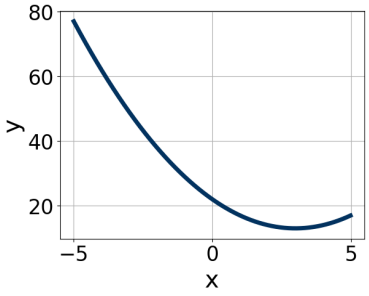
C.



B.



D.



E. None of the above.