1. 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. $a \in [1.93, 2.67]$, $b \in [-5, -2]$, $c \in [15.5, 18.1]$, and $d \in [-5, 5]$

B. $a \in [4.29, 7.57]$, $b \in [-5, -2]$, $c \in [5, 7.2]$, and $d \in [-5, 5]$

C. $a \in [10.79, 13.74]$, $b \in [-5, -2]$, $c \in [2.5, 4.4]$, and $d \in [-5, 5]$

D. $a \in [-0.12, 1.1]$, $b \in [-32, -27]$, $c \in [0.2, 1.3]$, and $d \in [-38, -29]$

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. $a \in [17.7, 19.2]$, $b \in [4, 10]$, $c \in [1.8, 3.4]$, and $d \in [4, 7]$

B. $a \in [-0.7, 1.1]$, $b \in [27, 36]$, $c \in [0.1, 1.3]$, and $d \in [29, 36]$

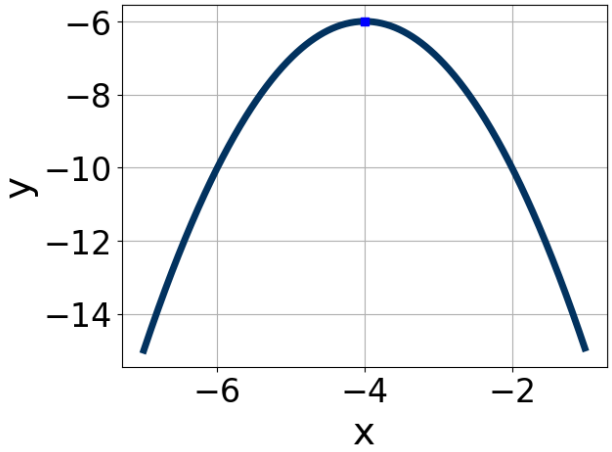
C. $a \in [4.9, 8.9]$, $b \in [4, 10]$, $c \in [3.8, 6.4]$, and $d \in [4, 7]$

D. $a \in [2.1, 3.4]$, $b \in [4, 10]$, $c \in [11.9, 14.7]$, and $d \in [4, 7]$

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. $a \in [-1.5, 0.6]$, $b \in [6, 11]$, and $c \in [-23, -20]$

B. $a \in [-1.5, 0.6]$, $b \in [6, 11]$, and $c \in [-12, -7]$

C. $a \in [-1.5, 0.6]$, $b \in [-8, -7]$, and $c \in [-23, -20]$

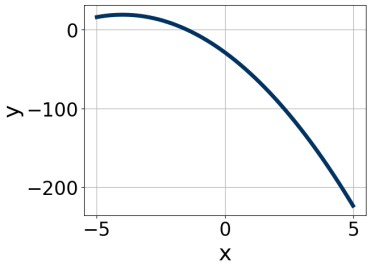
D. $a \in [0.4, 1.8]$, $b \in [-8, -7]$, and $c \in [7, 13]$

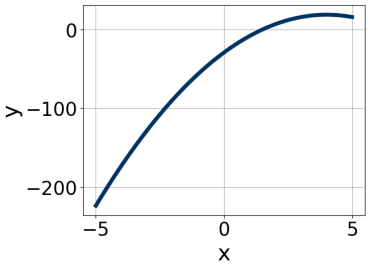
E. $a \in [0.4, 1.8]$, $b \in [6, 11]$, and $c \in [7, 13]$

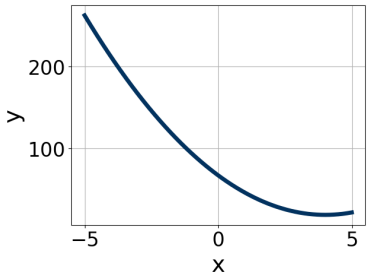
---

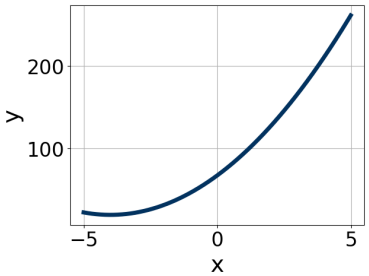
4. Graph the equation below.

$$f(x) = (x - 4)^2 + 19$$

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 $x_1 \leq x_2$.

$$20x^2 - 21x - 54 = 0$$

A. $x_1 \in [-1.74, -1.15]$ and $x_2 \in [1.8, 2.84]$

B. $x_1 \in [-3.76, -3.56]$ and $x_2 \in [0.5, 1.12]$

C. $x_1 \in [-0.82, -0.06]$ and $x_2 \in [6.28, 6.98]$

D. $x_1 \in [-24.37, -23.32]$ and $x_2 \in [44.99, 46.25]$

E. $x_1 \in [-6.23, -5.24]$ and $x_2 \in [-0.8, 0.56]$

---

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

$$14x^2 + 8x - 8 = 0$$

A. $x_1 \in [-15.94, -15.23]$ and $x_2 \in [6.2, 7.49]$

B. $x_1 \in [-0.77, 0.05]$ and $x_2 \in [0.94, 1.12]$

C. $x_1 \in [-1.4, -0.63]$ and $x_2 \in [0.5, 0.79]$

D. $x_1 \in [-23.25, -21.33]$ and $x_2 \in [21.3, 22.48]$

E. There are no Real solutions.

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

$$8x^2 - 54x + 81 = 0$$

A. $x_1 \in [0.62, 0.89]$ and $x_2 \in [13.16, 13.92]$

B. $x_1 \in [17.94, 18.23]$ and $x_2 \in [35.81, 36.56]$

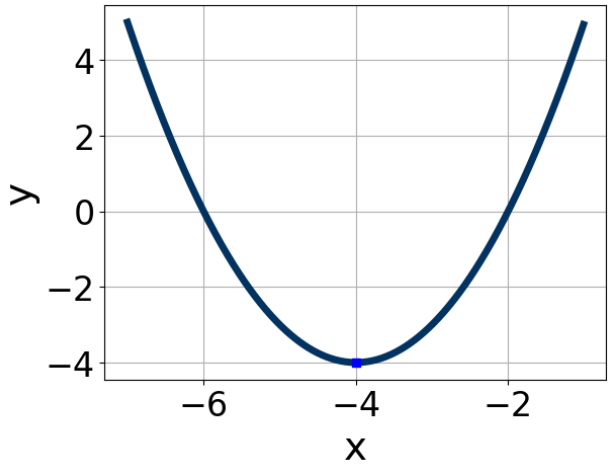
C. $x_1 \in [0.97, 1.45]$ and $x_2 \in [8.37, 10.86]$

D. $x_1 \in [2.22, 2.27]$ and $x_2 \in [4.19, 4.84]$

E. $x_1 \in [1.44, 1.53]$ and $x_2 \in [5.44, 6.79]$

---

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. $a \in [-2.5, -0.7]$, $b \in [5, 12]$, and $c \in [-20, -17]$

B. $a \in [-2.5, -0.7]$, $b \in [-8, -6]$, and $c \in [-20, -17]$

C. $a \in [0.9, 1.2]$, $b \in [-8, -6]$, and $c \in [18, 22]$

D. $a \in [0.9, 1.2]$, $b \in [5, 12]$, and $c \in [11, 16]$

E. $a \in [0.9, 1.2]$, $b \in [-8, -6]$, and $c \in [11, 16]$

---

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

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

A. $x_1 \in [-0.76, -0.23]$ and $x_2 \in [0.92, 0.94]$

B. $x_1 \in [-28.07, -26.93]$ and $x_2 \in [27.07, 27.42]$

C. $x_1 \in [-17.94, -17.47]$ and $x_2 \in [9.4, 9.9]$

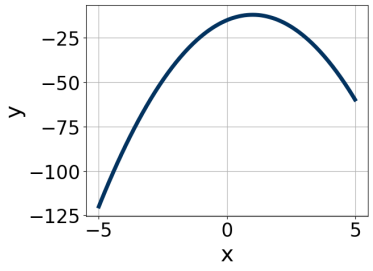
D. $x_1 \in [-1.2, -0.81]$ and $x_2 \in [0.08, 0.87]$

E. There are no Real solutions.

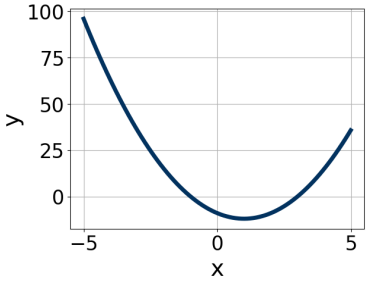
10. Graph the equation below.

$$f(x) = (x-1)^2 - 12$$

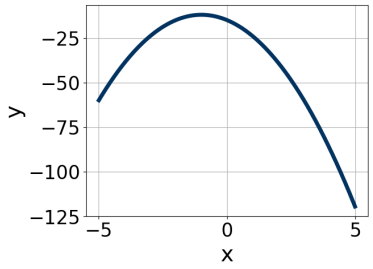
A.



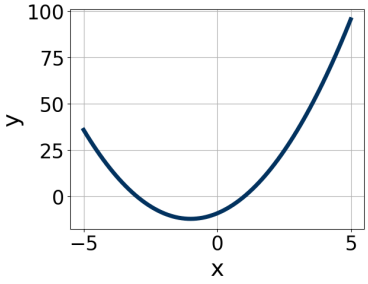

C.




B.




D.




E. None of the above.