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

$$25x^2 - 60x + 36 = 0$$

A. $x_1 \in [0.27, 0.47]$ and $x_2 \in [2.55, 4.19]$

B. $x_1 \in [0.22, 0.28]$ and $x_2 \in [4.87, 6.93]$

C. $x_1 \in [0.51, 0.69]$ and $x_2 \in [2.04, 2.84]$

D. $x_1 \in [1.02, 1.23]$ and $x_2 \in [0.71, 1.59]$

E. $x_1 \in [29.96, 30.12]$ and $x_2 \in [29.98, 31.87]$

---

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

$$25x^2 - 50x + 24 = 0$$

A. $x_1 \in [0.66, 1.05]$ and $x_2 \in [1.03, 1.54]$

B. $x_1 \in [19.99, 20.16]$ and $x_2 \in [29.03, 30.63]$

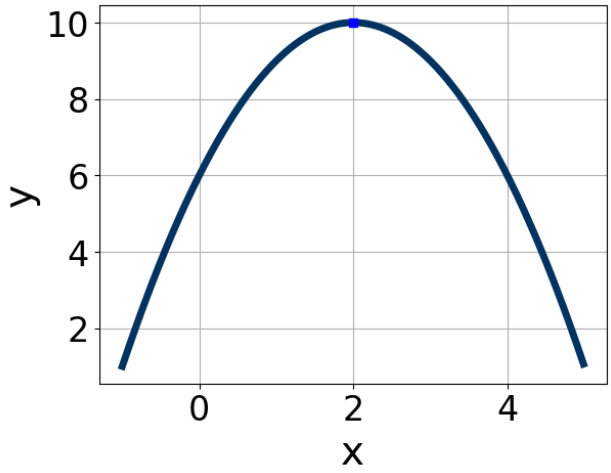
C. $x_1 \in [0.52, 0.67]$ and $x_2 \in [1.21, 1.76]$

D. $x_1 \in [0.21, 0.36]$ and $x_2 \in [3.46, 4.01]$

E. $x_1 \in [0.35, 0.43]$ and $x_2 \in [2.13, 2.95]$

---

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. $a \in [-4, 0]$, $b \in [-7, 2]$, and $c \in [-16, -12]$

B. $a \in [1, 2]$, $b \in [-7, 2]$, and $c \in [14, 19]$

C. $a \in [-4, 0]$, $b \in [2, 6]$, and $c \in [4, 8]$

D. $a \in [1, 2]$, $b \in [2, 6]$, and $c \in [14, 19]$

E. $a \in [-4, 0]$, $b \in [-7, 2]$, and $c \in [4, 8]$

---

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

$$14x^2 - 12x - 9 = 0$$

A. $x_1 \in [-7.04, -6.25]$ and $x_2 \in [18.1, 20.5]$

B. $x_1 \in [-0.85, -0.32]$ and $x_2 \in [0.7, 2.2]$

C. $x_1 \in [-1.78, -1.31]$ and $x_2 \in [-0.5, 1]$

D. $x_1 \in [-25.55, -24.82]$ and $x_2 \in [24.9, 26.1]$

E. There are no Real solutions.

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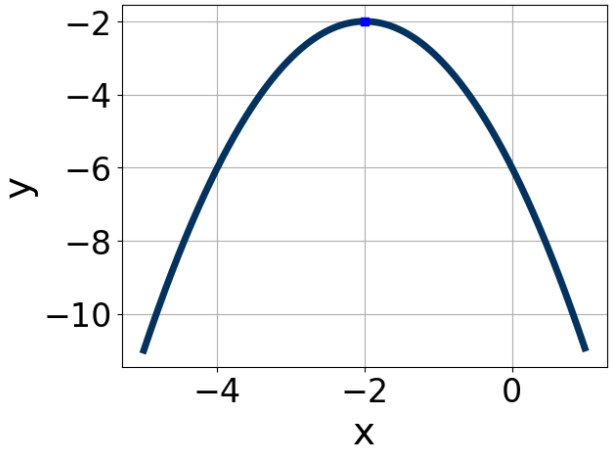
5. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-2.2, 0.2]$, $b \in [2, 6]$, and $c \in [-6, -4]$

B. $a \in [-2.2, 0.2]$, $b \in [2, 6]$, and $c \in [-4, -1]$

C. $a \in [0.6, 3]$, $b \in [2, 6]$, and $c \in [0, 3]$

D. $a \in [-2.2, 0.2]$, $b \in [-6, -2]$, and $c \in [-6, -4]$

E. $a \in [0.6, 3]$, $b \in [-6, -2]$, and $c \in [0, 3]$

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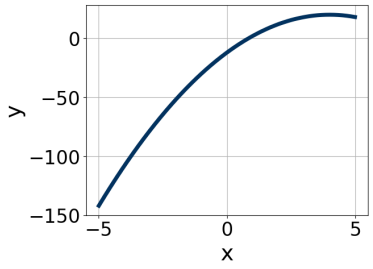
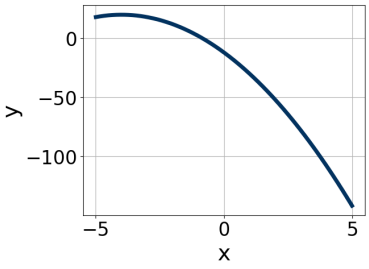
6. Graph the equation below.

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

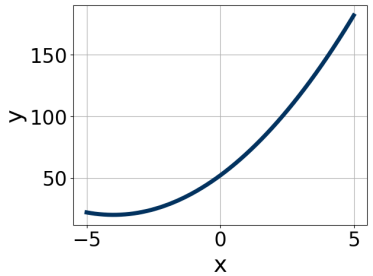
A.



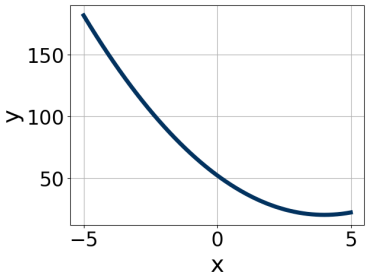
C.



B.



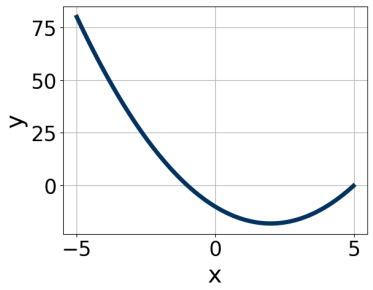
D.

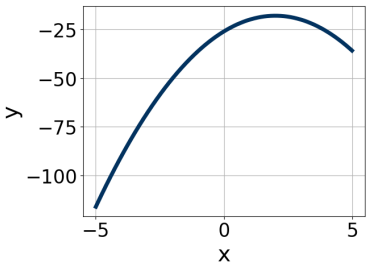


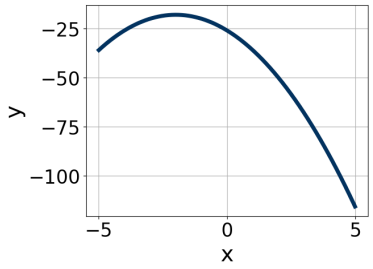
E. None of the above.

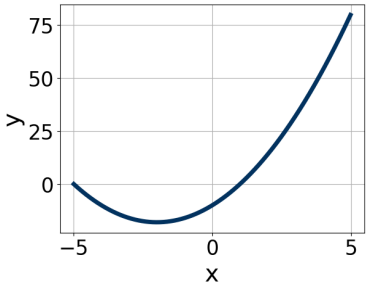
7. Graph the equation below.

$$f(x) = (x-2)^2 - 18$$

A.


C.


B.


D.


E. None of the above.

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8. 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. $a \in [0.83, 2.1]$, $b \in [26, 36]$, $c \in [0.31, 1.2]$, and $d \in [26, 33]$

B. $a \in [17.63, 18.91]$, $b \in [4, 9]$, $c \in [1.89, 2.19]$, and $d \in [2, 8]$

C. $a \in [5.82, 6.65]$, $b \in [4, 9]$, $c \in [5.79, 7.41]$, and $d \in [2, 8]$

D. $a \in [1.3, 3.45]$, $b \in [4, 9]$, $c \in [10.82, 13.06]$, and $d \in [2, 8]$

E. None of the above.

---

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

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

A. $x_1 \in [-2.86, -2.46]$ and $x_2 \in [13.6, 14.1]$

B. $x_1 \in [-0.92, -0.57]$ and $x_2 \in [-1.9, 0.4]$

C. $x_1 \in [-16.39, -16.21]$ and $x_2 \in [15.8, 18.4]$

D. $x_1 \in [-0.2, 0.03]$ and $x_2 \in [0.6, 2.8]$

E. There are no Real solutions.

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

$$24x^2 - 38x + 15$$

A. $a \in [1.8, 4.4]$, $b \in [-6, -4]$, $c \in [6.95, 9.24]$, and $d \in [-3, -1]$

B. $a \in [4, 7.9]$, $b \in [-6, -4]$, $c \in [3.87, 4.05]$, and $d \in [-3, -1]$

C. $a \in [10.9, 13.8]$, $b \in [-6, -4]$, $c \in [1.9, 2.61]$, and $d \in [-3, -1]$

D. $a \in [0.8, 1.2]$, $b \in [-22, -16]$, $c \in [0.75, 1.4]$, and $d \in [-23, -13]$

E. None of the above.
