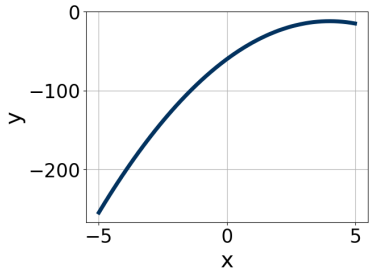
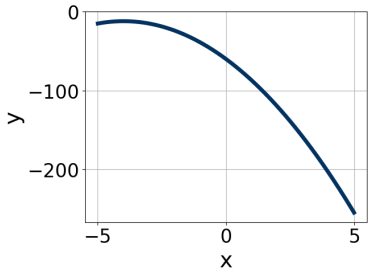
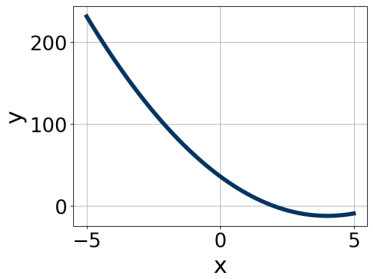
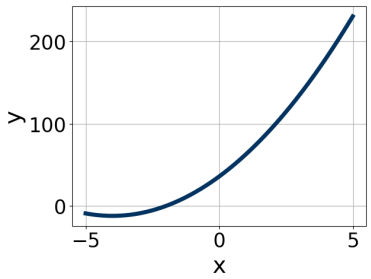
1. Graph the equation below.

$$f(x) = -(x-4)^2 - 12$$

A.


C.


B.


D.


E. None of the above.

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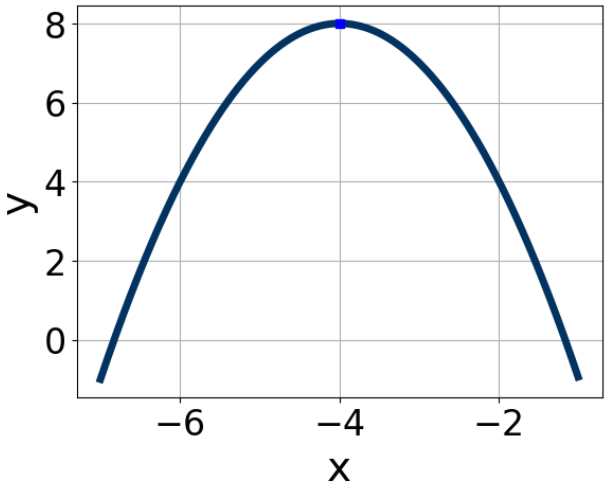
2. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that a, b, and c belong to.



A. $a \in [-2.4, -0.8]$, $b \in [-8, -5]$, and $c \in [-9, -7]$

B. $a \in [-2.4, -0.8]$, $b \in [8, 13]$, and $c \in [-24, -22]$

C. $a \in [0, 1.9]$, $b \in [8, 13]$, and $c \in [23, 25]$

D. $a \in [0, 1.9]$, $b \in [-8, -5]$, and $c \in [23, 25]$

E. $a \in [-2.4, -0.8]$, $b \in [8, 13]$, and $c \in [-9, -7]$

---

3. 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. $x_1 \in [-0.99, 1.03]$ and $x_2 \in [1.6, 1.85]$

B. $x_1 \in [-1.26, -1.05]$ and $x_2 \in [0.59, 0.85]$

C. $x_1 \in [-30.21, -29.25]$ and $x_2 \in [19.66, 20.07]$

D. $x_1 \in [-6.46, -5.81]$ and $x_2 \in [0.09, 0.27]$

E. $x_1 \in [-3.59, -1.91]$ and $x_2 \in [0.23, 0.44]$

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

$$-19x^2 - 13x + 8 = 0$$

A. $x_1 \in [-0.59, -0.36]$ and $x_2 \in [0.8, 1.09]$

B. $x_1 \in [-8.09, -6.62]$ and $x_2 \in [19.52, 21.03]$

C. $x_1 \in [-2.28, -0.62]$ and $x_2 \in [-0.05, 0.79]$

D. $x_1 \in [-28.5, -27.22]$ and $x_2 \in [27.25, 27.76]$

E. There are no Real solutions.

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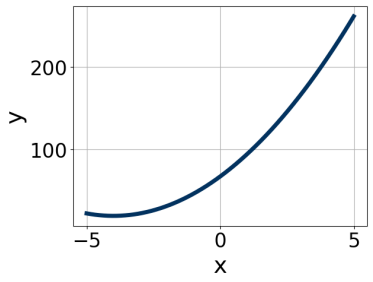
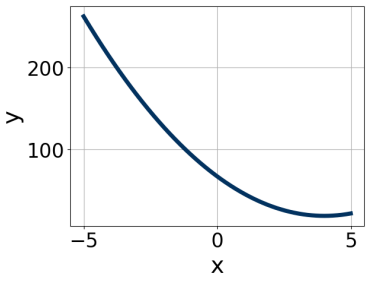
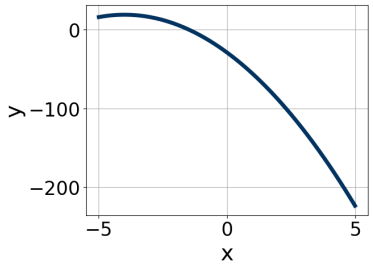
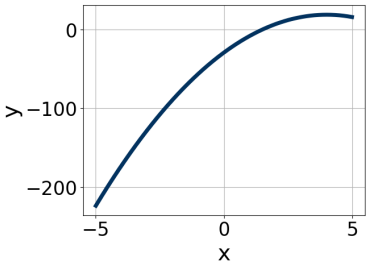
5. Graph the equation below.

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

A. 

C. 

B. 

D. 

E. None of the above.

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6. 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. $a \in [1.3, 3.4]$, $b \in [-8, -4]$, $c \in [11.92, 12.96]$, and $d \in [-6, -4]$

B. $a \in [11.5, 12.3]$, $b \in [-8, -4]$, $c \in [2.18, 4.16]$, and $d \in [-6, -4]$

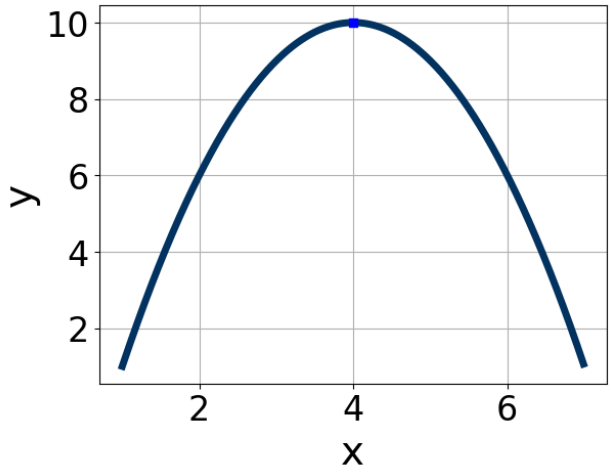
C. $a \in [5.1, 6.1]$, $b \in [-8, -4]$, $c \in [5.73, 6.44]$, and $d \in [-6, -4]$

D. $a \in [-1.3, 2.4]$, $b \in [-30, -25]$, $c \in [0.43, 1.66]$, and $d \in [-36, -25]$

E. None of the above.

---

7. 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. $a \in [0, 4]$, $b \in [5, 13]$, and $c \in [24, 29]$

B. $a \in [-3, 0]$, $b \in [-10, -3]$, and $c \in [-8, -4]$

C. $a \in [-3, 0]$, $b \in [5, 13]$, and $c \in [-8, -4]$

D. $a \in [0, 4]$, $b \in [-10, -3]$, and $c \in [24, 29]$

E. $a \in [-3, 0]$, $b \in [-10, -3]$, and $c \in [-29, -25]$

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

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

A. $a \in [4.7, 7.43]$, $b \in [-6, -4]$, $c \in [6.4, 9.9]$, and $d \in [-4, -1]$

B. $a \in [11.56, 13.06]$, $b \in [-6, -4]$, $c \in [2, 6]$, and $d \in [-4, -1]$

C. $a \in [1.76, 2.81]$, $b \in [-6, -4]$, $c \in [25.8, 29.8]$, and $d \in [-4, -1]$

D. $a \in [-0.38, 1.28]$, $b \in [-45, -41]$, $c \in [-3.3, 3.1]$, and $d \in [-15, -10]$

E. None of the above.

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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).

$$-13x^2 - 13x + 5 = 0$$

A. $x_1 \in [-2.2, -0.3]$ and $x_2 \in [-0.4, 0.8]$

B. $x_1 \in [-22.1, -19.4]$ and $x_2 \in [18.9, 21.4]$

C. $x_1 \in [-1, 0.8]$ and $x_2 \in [0.8, 3.5]$

D. $x_1 \in [-4.7, -2.9]$ and $x_2 \in [16.7, 19.1]$

E. There are no Real solutions.

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10. 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. $x_1 \in [-0.53, -0.26]$ and $x_2 \in [2.52, 2.91]$

B. $x_1 \in [-1.86, -1.56]$ and $x_2 \in [0.29, 0.9]$

C. $x_1 \in [-0.85, -0.47]$ and $x_2 \in [0.89, 1.7]$

D. $x_1 \in [-4.15, -3.77]$ and $x_2 \in [0.23, 0.51]$

E. $x_1 \in [-12.26, -11.69]$ and $x_2 \in [19.56, 20.04]$
