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

$$15x^2 + 8x - 3 = 0$$

A. $x_1 \in [-0.57, 0.66]$ and $x_2 \in [0.44, 1.76]$

B. $x_1 \in [-11.98, -11.67]$ and $x_2 \in [3.74, 4.13]$

C. $x_1 \in [-16.34, -15.88]$ and $x_2 \in [15.09, 15.95]$

D. $x_1 \in [-0.8, -0.55]$ and $x_2 \in [0.19, 0.75]$

E. There are no Real solutions.

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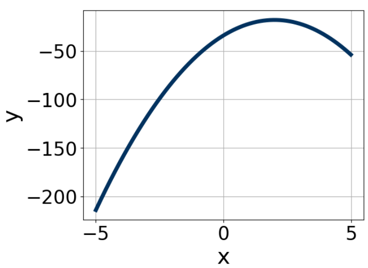
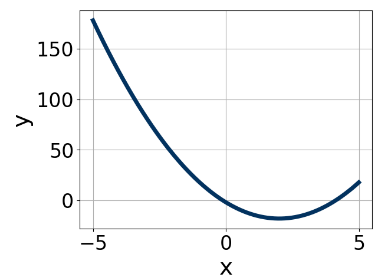
17. Graph the equation below.

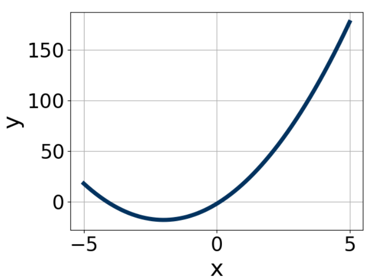
$$f(x) = -(x-2)^2 - 18$$



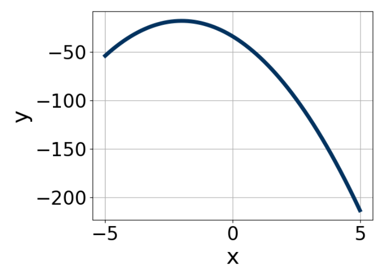

A.




C.




B.




D.

E. None of the above.

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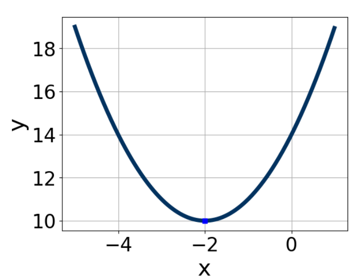
18. Write the equation of the graph presented below in the form $f(x) = ax^2 + bx + c$, assuming $a = 1$ or $a = -1$. Then, choose the intervals that $a, b,$ and $c$ belong to.




A. $a \in [-0.7, 1.2], \quad b \in [-5, -2], \text{ and } \quad c \in [-9, -4]$

B. $a \in [-0.7, 1.2], \quad b \in [3, 7], \text{ and } \quad c \in [11, 15]$

C. $a \in [-1.7, -0.9], \quad b \in [3, 7], \text{ and } \quad c \in [5, 7]$

D. $a \in [-0.7, 1.2], \quad b \in [-5, -2], \text{ and } \quad c \in [11, 15]$

E. $a \in [-1.7, -0.9], \quad b \in [-5, -2], \text{ and } \quad c \in [5, 7]$

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

$$54x^2 - 15x - 25$$

A. $a \in [2.3, 5.5], \quad b \in [-12, -2], \quad c \in [17.4, 20.8], \text{ and } \quad d \in [1, 6]$

B. $a \in [17.3, 19], \quad b \in [-12, -2], \quad c \in [2.6, 4], \text{ and } \quad d \in [1, 6]$

C. $a \in [-0.1, 1.6], \quad b \in [-49, -42], \quad c \in [0.8, 1.6], \text{ and } \quad d \in [17, 33]$

D. $a \in [5.6, 9.2], \quad b \in [-12, -2], \quad c \in [7.4, 9.1], \text{ and } \quad d \in [1, 6]$

E. None of the above.

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20. 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. $x_1 \in [-4.8, -3.5]$ and $x_2 \in [-0.48, -0.38]$

B. $x_1 \in [-3.4, -2.2]$ and $x_2 \in [-0.65, -0.52]$

C. $x_1 \in [-1.8, -0.3]$ and $x_2 \in [-1.29, -1.05]$

D. $x_1 \in [-6.3, -4]$ and $x_2 \in [-0.3, -0.18]$

E. $x_1 \in [-31.1, -27.1]$ and $x_2 \in [-30.05, -29.97]$

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