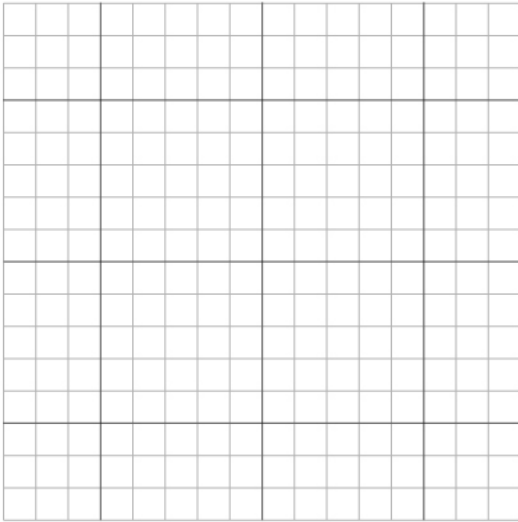


# Quadratic Function

## Domain and Range

Draw the graph of each quadratic function and then find its domain and range.

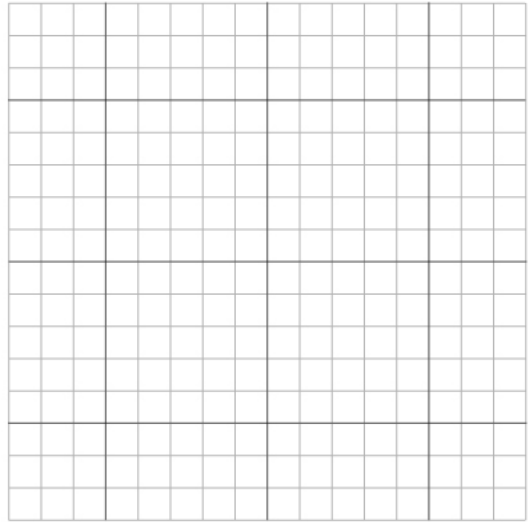
①  $f(x) = x^2 + 5x + 5$



Domain:

Range:

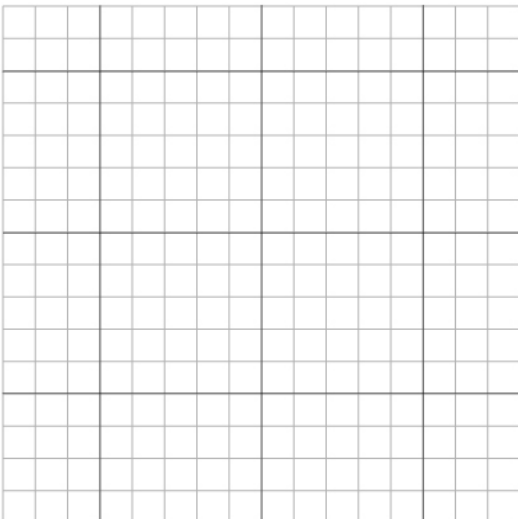
②  $f(x) = 2x^2 + 4x - 3$



Domain:

Range:

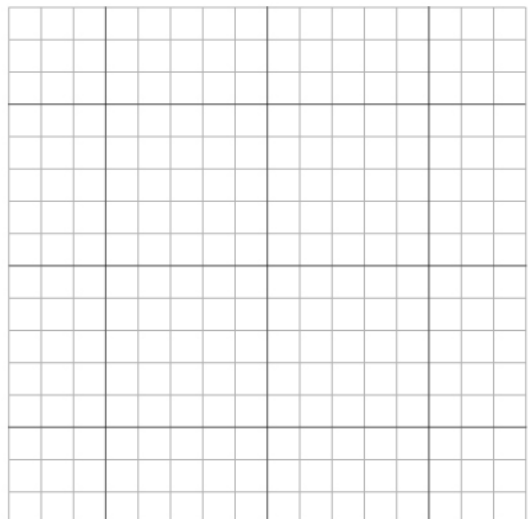
③



Domain:

Range:

④  $f(x) = 2x^2 + 5x - 7$



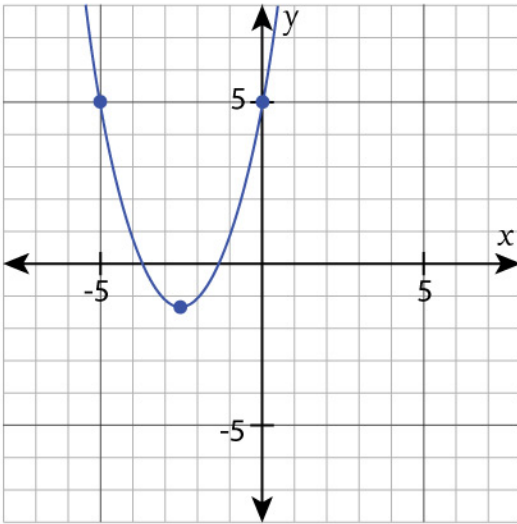
Domain:

Range:

# Quadratic Function Domain and Range

## Answers

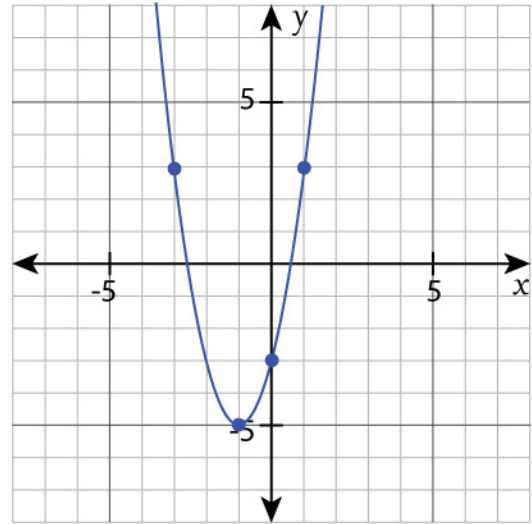
①  $f(x) = x^2 + 5x + 5$



Domain:  $\left[ \begin{array}{l} \text{Solution: } -\infty < x < \infty \\ \text{Interval notation: } (-\infty, \infty) \end{array} \right]$

Range:  $\left[ \begin{array}{l} \text{Solution: } f(x) \geq -\frac{5}{4} \\ \text{Interval notation: } (-\frac{5}{4}, \infty) \end{array} \right]$

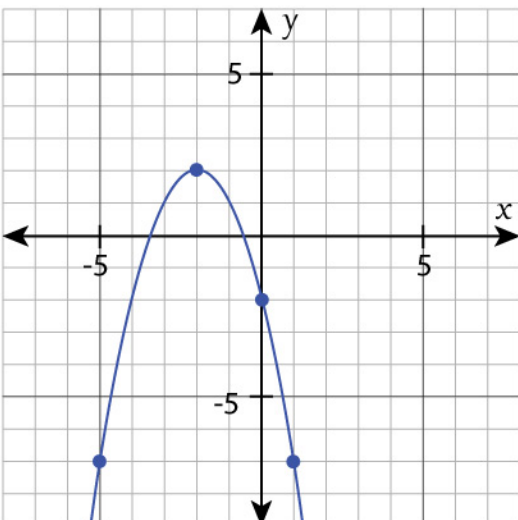
②  $f(x) = 2x^2 + 4x - 3$



Domain:  $\left[ \begin{array}{l} \text{Solution: } -\infty < x < \infty \\ \text{Interval notation: } (-\infty, \infty) \end{array} \right]$

Range:  $\left[ \begin{array}{l} \text{Solution: } f(x) \geq -5 \\ \text{Interval notation: } [-5, \infty) \end{array} \right]$

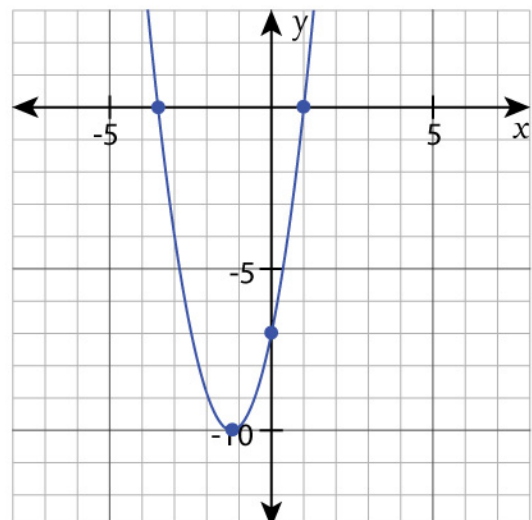
③  $f(x) = -(x + 2)^2 + 2$



Domain:  $\left[ \begin{array}{l} \text{Solution: } -\infty < x < \infty \\ \text{Interval notation: } (-\infty, \infty) \end{array} \right]$

Range:  $\left[ \begin{array}{l} \text{Solution: } f(x) \leq 2 \\ \text{Interval notation: } (-\infty, 2] \end{array} \right]$

④  $f(x) = 2x^2 + 5x - 7$



Domain:  $\left[ \begin{array}{l} \text{Solution: } -\infty < x < \infty \\ \text{Interval notation: } (-\infty, \infty) \end{array} \right]$

Range:  $\left[ \begin{array}{l} \text{Solution: } f(x) \leq -\frac{31}{8} \\ \text{Interval notation: } (-\infty, -\frac{31}{8}] \end{array} \right]$