

NAME: Key

UNIT 8 DAY 4 - HOMEWORK
COMPLETING THE SQUARE

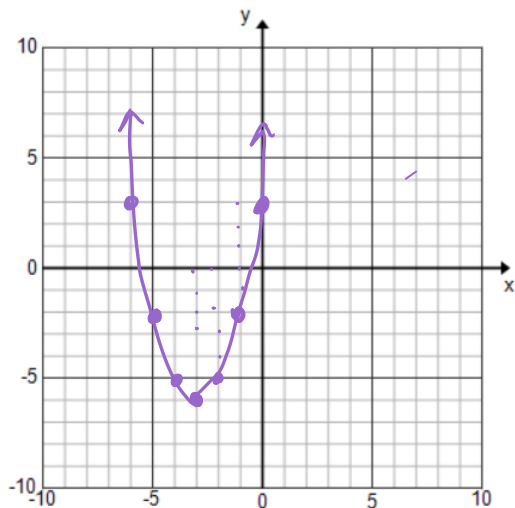


$$y = (x + 3)^2 - 6$$

Vertex: $(-3, -6)$ Pattern: $1, 3, 5$

Domain: $(-\infty, \infty)$ Range: $[-6, \infty)$

As $x \rightarrow -\infty, y \rightarrow \infty$ As $x \rightarrow \infty, y \rightarrow \infty$

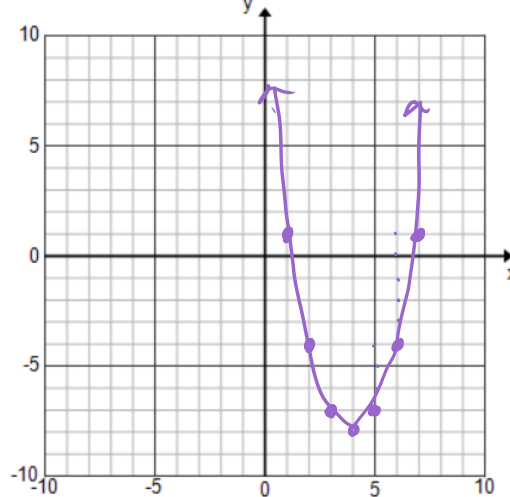


$$y = (x - 4)^2 - 8$$

Vertex: $(4, -8)$ Pattern: $1, 3, 5$

Domain: $(-\infty, \infty)$ Range: $[-8, \infty)$

As $x \rightarrow -\infty, y \rightarrow \infty$ As $x \rightarrow \infty, y \rightarrow \infty$

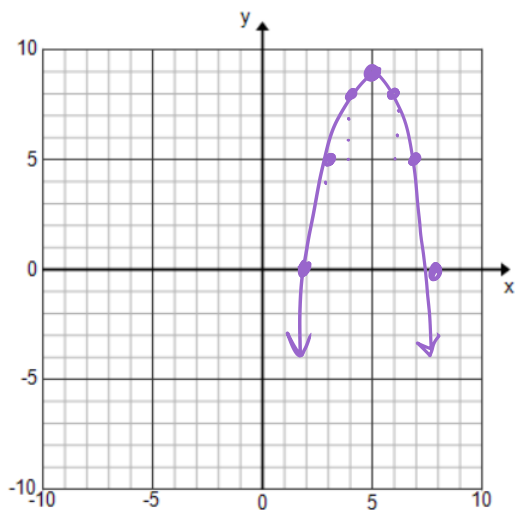


$$y = -(x - 5)^2 + 9$$

Vertex: $(5, 9)$ Pattern: $-1, -3, -5$

Domain: $(-\infty, \infty)$ Range: $(-\infty, 9]$

As $x \rightarrow -\infty, y \rightarrow -\infty$ As $x \rightarrow \infty, y \rightarrow -\infty$

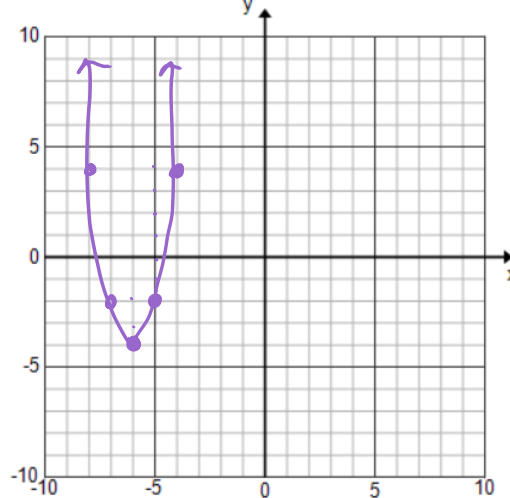


$$y = 2(x + 6)^2 - 4$$

Vertex: $(-6, -4)$ Pattern: $2, 6, 10$

Domain: $(-\infty, \infty)$ Range: $[-4, \infty)$

As $x \rightarrow -\infty, y \rightarrow \infty$ As $x \rightarrow \infty, y \rightarrow \infty$

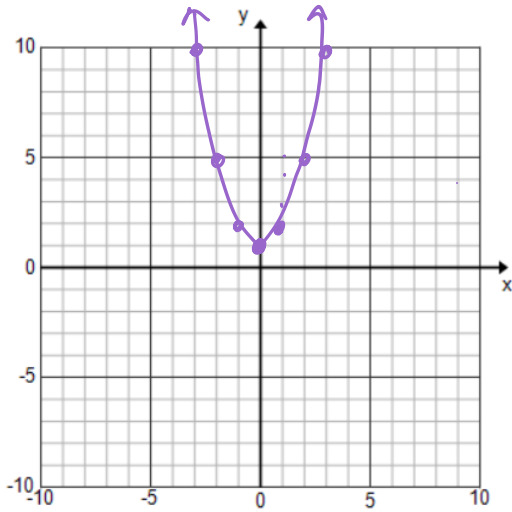


$$y = (x)^2 + 1$$

Vertex: (0, 1) Pattern: 1, 3, 5

Domain: $(-\infty, \infty)$ Range: $[1, \infty)$

As $x \rightarrow -\infty, y \rightarrow \infty$ As $x \rightarrow \infty, y \rightarrow \infty$

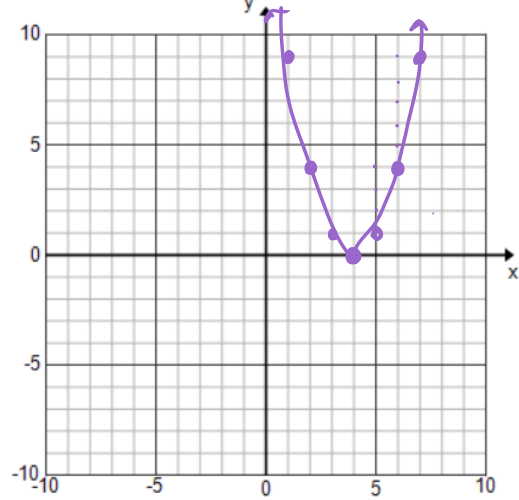


$$y = (x - 4)^2$$

Vertex: (4, 0) Pattern: 1, 3, 5

Domain: $(-\infty, \infty)$ Range: $[0, \infty)$

As $x \rightarrow -\infty, y \rightarrow \infty$ As $x \rightarrow \infty, y \rightarrow \infty$

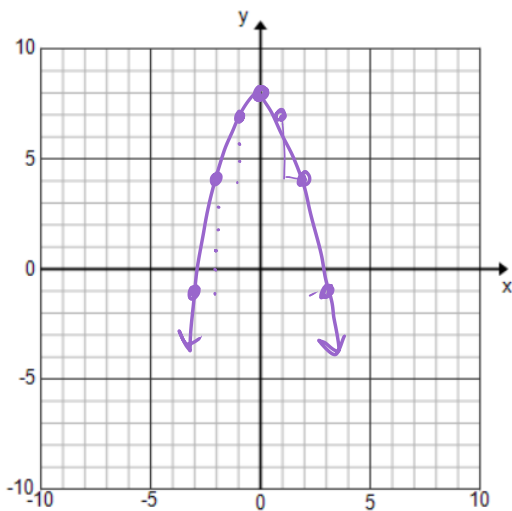


$$y = -(x)^2 + 8$$

Vertex: (0, 8) Pattern: -1, -3, -5

Domain: $(-\infty, \infty)$ Range: $(-\infty, 8]$

As $x \rightarrow -\infty, y \rightarrow -\infty$ As $x \rightarrow \infty, y \rightarrow -\infty$



$$y = -0.5(x - 4)^2 + 6$$

Vertex: (4, 6) Pattern: 1, 3, 5 x - 0.5

Domain: $(-\infty, \infty)$ Range: $(-\infty, 6]$

As $x \rightarrow -\infty, y \rightarrow -\infty$ As $x \rightarrow \infty, y \rightarrow -\infty$

