

Piecewise-Defined Functions Video Lecture

Section 8.3

Course Learning Objectives:

- 1) Graph linear and quadratic equations.**
- 2) Demonstrate appropriate manipulation of function notation and be able to find the domain and range of a function.**

Weekly Learning Objectives:

- 1) Graph piecewise-defined functions.**
- 2) Find the domain and range of piecewise-defined functions.**
- 3) Evaluate piecewise-defined functions.**

Piecewise-Defined Functions

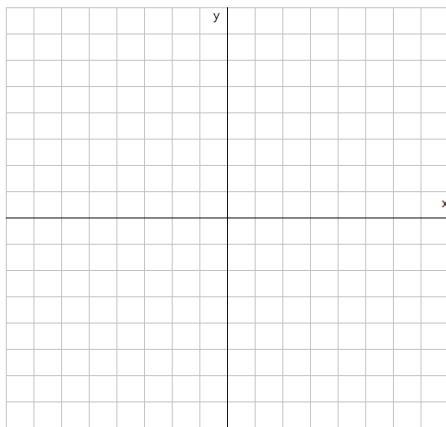
$$f(x) = \begin{cases} 3x+4 & \text{if } x < 0 \\ -x+2 & \text{if } x \geq 0 \end{cases}$$

Evaluate:

$$f(-4) =$$

$$f(3) =$$

$$f(0) =$$

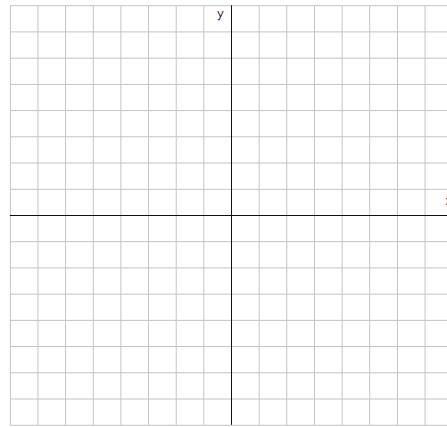


$$g(x) = \begin{cases} -1 & \text{if } x \leq 0 \\ -3 & \text{if } x \geq 2 \end{cases}$$

$$g(-5) =$$

$$g(0) =$$

$$g(5) =$$



Domain:

Range:

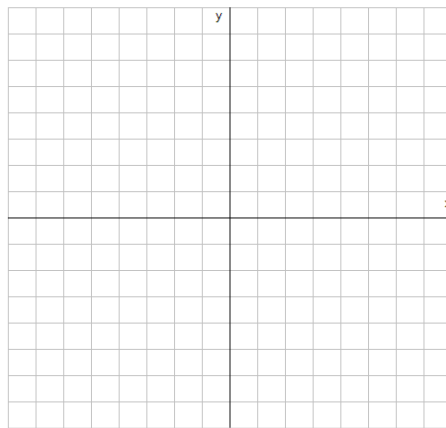
$$f(x) = \begin{cases} -\frac{1}{2}x & \text{if } x \leq 0 \\ x+1 & \text{if } 0 < x < 2 \\ 2x-1 & \text{if } x > 2 \end{cases}$$

$f(3) =$

$f(0) =$

$f(-3) =$

$f(1) =$



Domain:

Range: