16.2 Finding Domain and Range

Finding a Function's Domain:

1.) The domain is the set of all real numbers, $(-\infty, \infty)$, unless x appears in a denominator or a square root.

2.) "Fraction" – the denominator can NOT equal 0.

➔ Set the **denominator $\neq 0$** and solve.

3.) Square Root – radicand must be greater than or equal to 0.

➔ Set the **radicand ≥ 0** and solve.

Ex. Determine the domain of f. Write the domain in both interval notation and set-builder notation.

(a) $f(x) = 5x + 3$

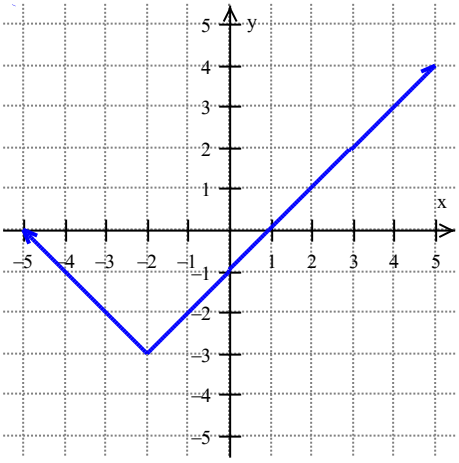
(b) $f(x) = \sqrt{x - 5}$

(c) $f(x) = |3x - 4|$

(d) $f(x) = \dfrac{6 - x}{2x + 7}$

❖ REVIEWING FUNCTION NOTATION

Ex. Using the given graph, find the value of:



(a) $f(3) =$ _____

(b) $f(-2) =$ _____

(c) $f(0) =$ _____

(d) any x-values for which $f(x) = -2$

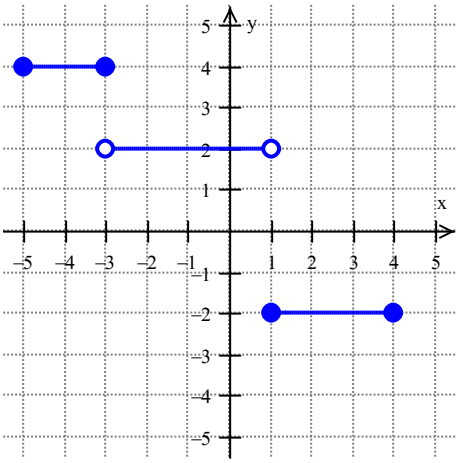
_____

(e) the domain

_____

(f) the range

_____



(a) $f(-3) =$ _____

(b) $f(0) =$ _____

(c) $f(1) =$ _____

(d) any x-values for which $f(x) = 4$

_____

(e) the domain

_____

(f) the range

_____