

MATH 1314

Chapter 1.2: Basics Of Functions And Their Graphs

RELATION: a set of ordered pairs (x, y)

DOMAIN:

RANGE:

FUNCTION: each member of the domain corresponds
to exactly one member of the range

Example: $\{(1, 6), (2, 6), (3, 8), (4, 9)\}$

Example: $\{(6, 1), (6, 2), (8, 3), (9, 4)\}$

$$y = 2x + 1$$

$$y = x^2$$

INDEPENDENT VARIABLE

DEPENDENT VARIABLE

Determine if the relation is a function.

$$x^2 + y = 4$$

$$x^2 + y^2 = 4$$

NOTATION:

EVALUATING: $y = f(x) = 2x + 1$

Find $f(5)$.

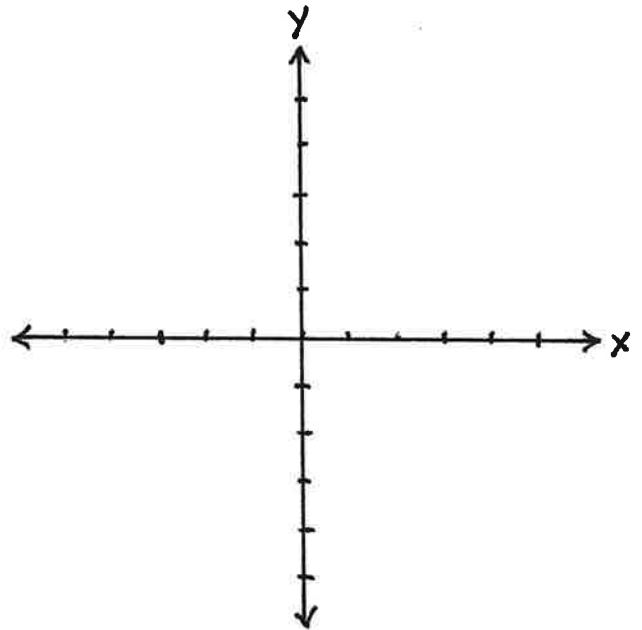
EVALUATING: $f(x) = x^2 + 3x + 5$

Find $f(2)$.

Find $f(x + 3)$.

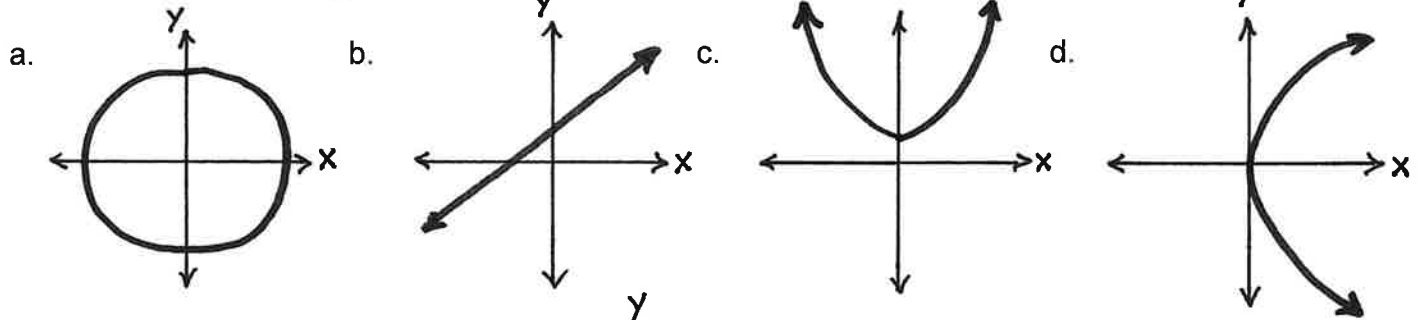
Find $f(-x)$.

GRAPHING: $f(x) = 2x + 1$



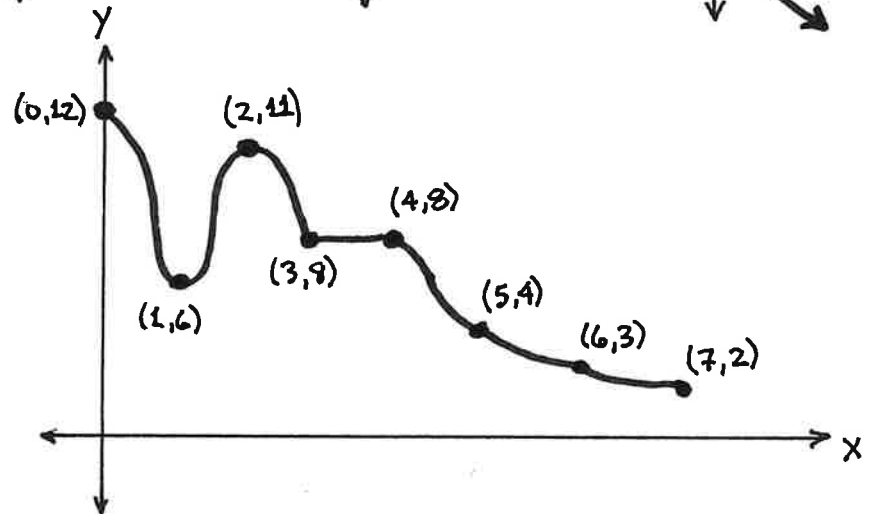
LINEAR FUNCTION: $f(x) = mx + b$

VERTICAL LINE TEST:

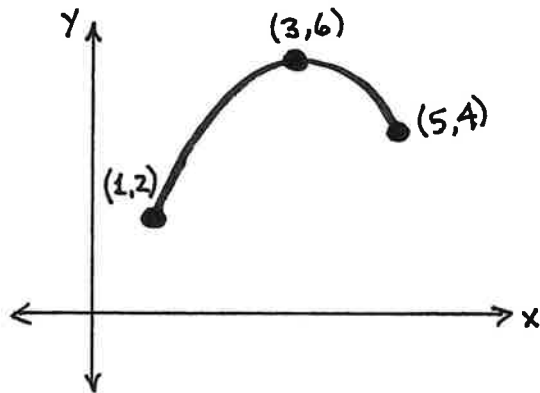


ANALYZING A GRAPH:

- Is this a function?
- Find $f(5)$.
- For what x is $f(x) = 4$?
- Notice trends:
increasing, decreasing,
staying constant



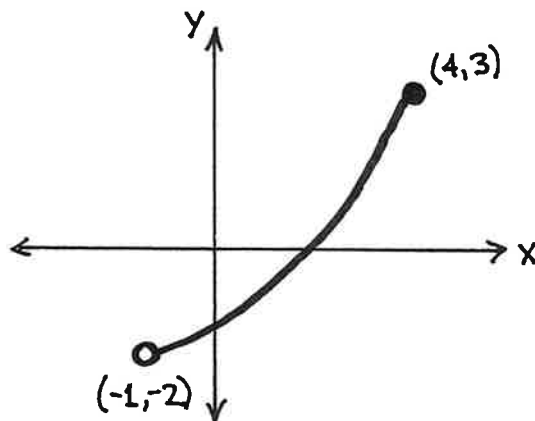
DOMAIN AND RANGE OF A GRAPH:



SET-BUILDER NOTATION	INTERVAL NOTATION
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DOMAIN:

RANGE:



SET-BUILDER NOTATION	INTERVAL NOTATION
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DOMAIN:

RANGE: