Unit 1 – Linear Functions and Equations
Functions

A relation is a function if:

Notation:
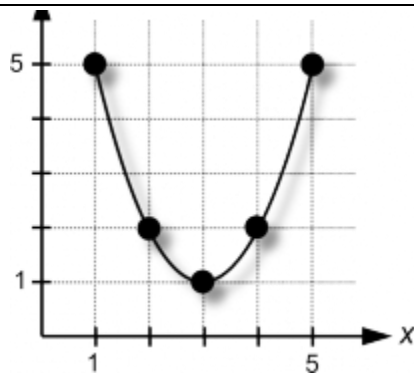
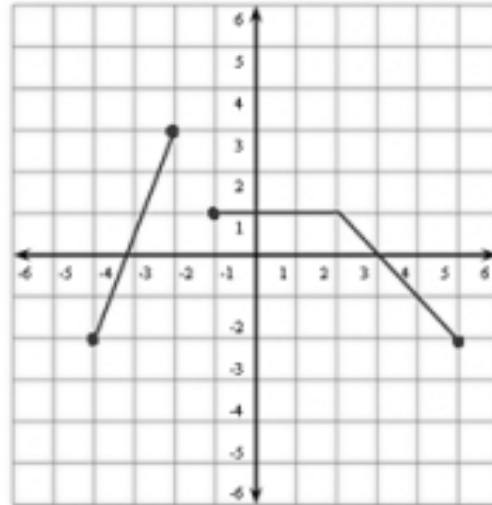| Graphically	Algebraically
1. What is $f(2)$? 2. What is $f(1)$? 3. What is x when $f(x) = 1$?	Let $f(x) = 3(x - 4) + 10$ 4. What is $f(8)$? 5. What is $f(-5)$? 6. What is x when $f(x) = 4$?

Analyzing a Function

Domain

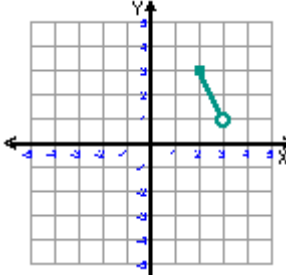
Range

Increasing on:

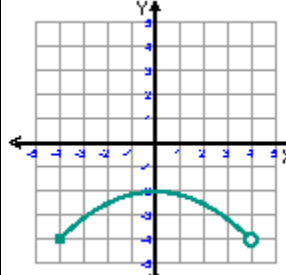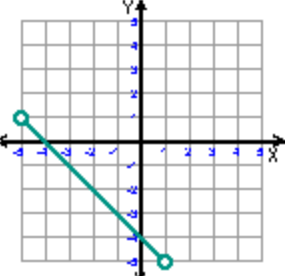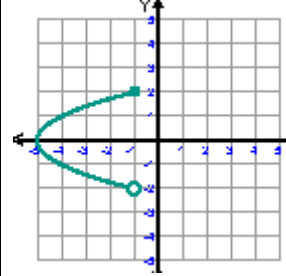Decreasing on:

Positive on:

Negative on:

Finding intercepts:

Unit 1 Functions Practice:

A) For the following, give the domain and range, tell whether the relation is function, and fill in the function statement:

Domain: Range: Function? $f(2) =$	Domain: Range: Function? $f(-3) =$
Domain: Range: Function? $f(\ \ ) = -3$	Domain: Range: Function?

B) For the graph on the bottom left:
   a. Where is the function increasing?

   b. Where is the function decreasing?

   c. Where is the function positive?

   d. Where is the function negative?

C) If $f(x) = 12x + 6$,

Find $f(12)$	Find $f(3)$
Find x if $f(x) = 40$	Find x if $f(x) = -30$

D) Find the intercepts:

Find the x-intercept of $y - 9 = 3(x + 4)$	Find the y-intercept of $6x - 8y = 24$

E) Word Problem: Jana recorded the height (x) and weight (y) of the seven Wide Receivers on the New Orleans Saints during the 2010 NFL season.

The linear regression function $f(x) = 4.6x - 125$ estimates a player's weight in pounds if he is x inches tall.

What is the slope of the regression, and what does it mean in context?	What is the y-intercept, and what does it mean in context?
What is the x-intercept, and what does it mean in context?	Evaluate $f(72)$. What does your answer mean in context?
Is $f(100) = 46$ true? Justify your answer.	What is x if $f(x) = 280$? What does your answer mean in context?