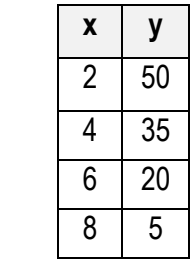
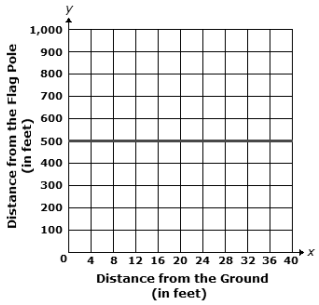
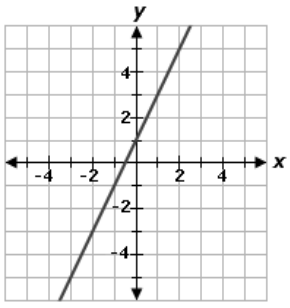
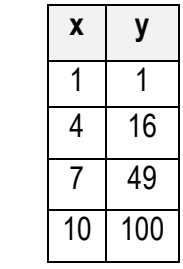
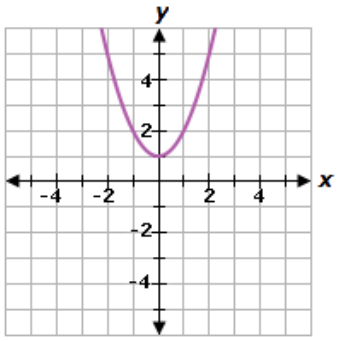
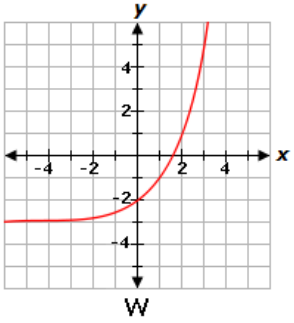
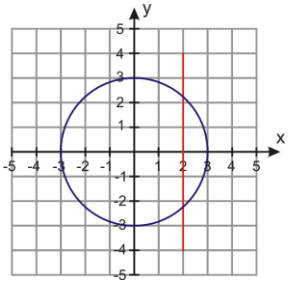
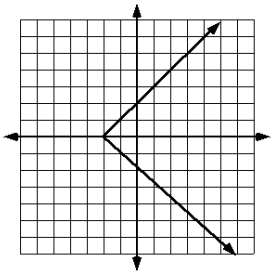
Lesson 4.7: Linear vs. Nonlinear

FUNCTIONS

	LINEAR	NONLINEAR
Differences	1.) **straight** line 2.) output (*y-value*) has a **constant difference** 3.) **constant rate** = slope slope = $\frac{y_2 - y_1}{x_2 - x_1}$ 4.) can be written in **slope intercept form** (y = mx + b) 5.) has a **degree of 1**	1.) **curve** (*not a straight line*) 2.) output (*y-value*) does **not** have a **constant rate** 3.) does **not** have the **same slope** 4.) **cannot** be written in **slope intercept form** 5.) has a **degree more than 1** 6.) has an **exponent** that is **not 1**
Examples	 $y = 2x + 1$  	    $y = x^2 + 1$ 

x	y
2	50
4	35
6	20
8	5

x	y
1	1
4	16
7	49
10	100