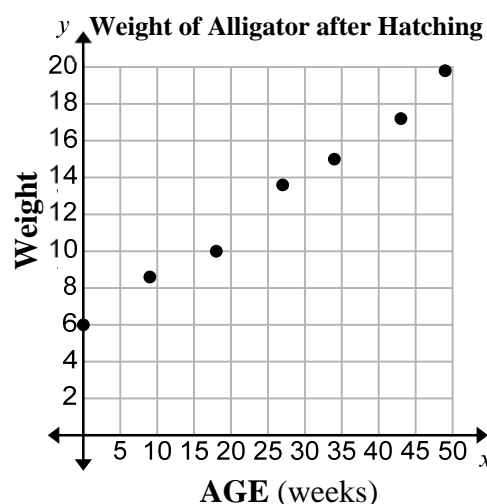




## Constructing & Interpreting a Scatter Plot (page 1)

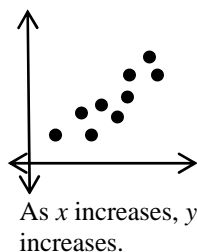
A **scatter plot** is a graph that shows a relationship between two data sets. Bivariate data is graphed as ordered pairs. For example, here is a scatter plot of the weight of an alligator at different times after hatching. Let the horizontal axis, or  $x$ -axis, represent the age of the alligator in weeks. Let the vertical axis, or  $y$ -axis, represent the weight in pounds. Then graph the ordered pairs (age, weight).

Age (weeks)	0	9	18	27	34	43	49
Weight (pounds)	6	8.6	10	13.6	15	17.2	19.8

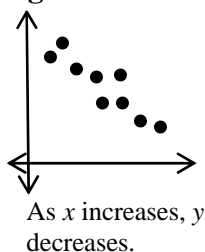


Looking at the shape of the distribution of points on a scatter plot can help you to identify patterns of association.

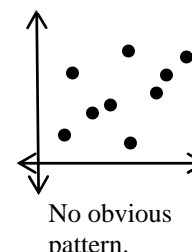
### Positive Association



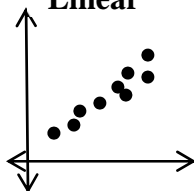
### Negative Association



### No Association

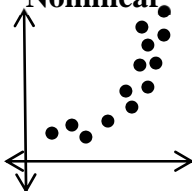


### Linear



The data points lie close to a line.

### Nonlinear

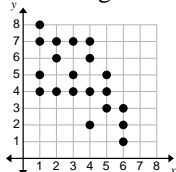


The data points lie in a shape of a curve.

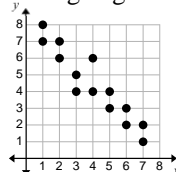
If you have a positive or negative association, then you can classify the association as linear or nonlinear.

If the data points cluster tightly in a predictable pattern (like a line), then the association is considered a strong association. If the points cluster loosely (in a pattern that is less predictable), there is a weak association.

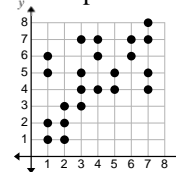
### Weak negative



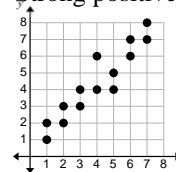
### Strong negative



### Weak positive



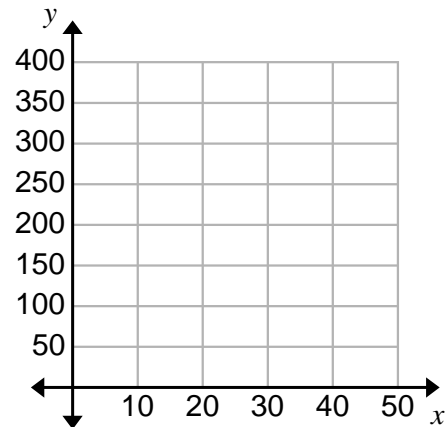
### Strong positive



## Constructing & Interpreting a Scatter Plot (page 2)

1. Construct a scatter plot of the data in the table.  
The data describes Insignia televisions on sale at Best Buy.

Television size (inches)	Cost (dollars)
19	110
28	140
32	170
32	200
39	230
42	280
50	390



2. For each scatter plot consider the different associations: (a) positive, negative, none; (b) linear or nonlinear; (c) strong or weak.

