

A \_\_\_\_\_ is a graph that shows the relationship between two data sets.

The two sets of data are graphed as ordered pairs in a coordinate plane.

### Making a Scatter Plot

Ex:) The table shows the ages of 10 adults and the numbers of gigabytes of cell phone data used by each adult in 1 month. Make a scatter plot of the data. Identify any outliers, gaps, or clusters.

Notes:

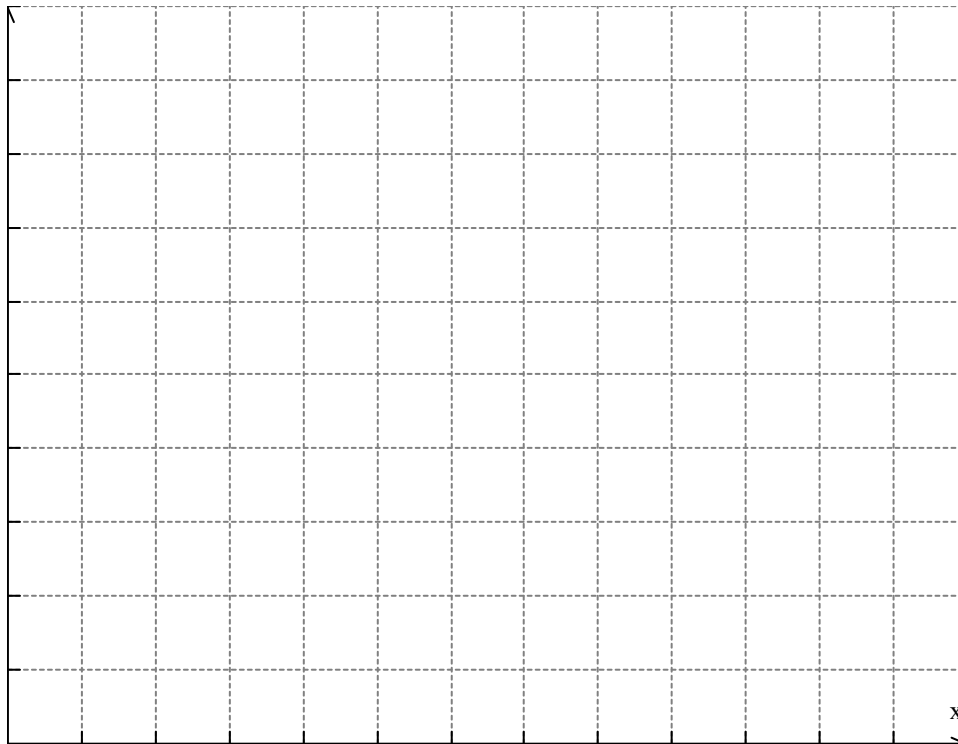
Age (years)	Data Used (gigabytes)
37	3.2
30	3.3
32	3.1
65	0.9
53	1.8
25	3.5
59	1.3
30	1.8
50	1.9
34	3.3



OYO:) Make a scatter plot of the data. Identify any outliers, gaps, or clusters.

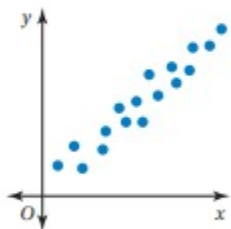
Notes:

<b>Study Time (min), <math>x</math></b>	30	20	80	90	45	10	30	75	120	80
<b>Test Score, <math>y</math></b>	80	74	95	97	85	62	83	90	70	91



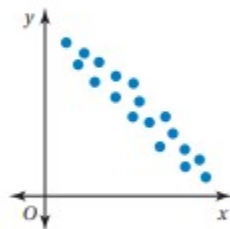
A scatter plot can show relationships between two data sets.

**Positive Linear Relationship**



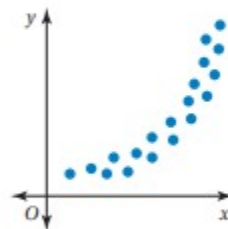
The points lie close to a line. As  $x$  increases,  $y$  increases.

**Negative Linear Relationship**



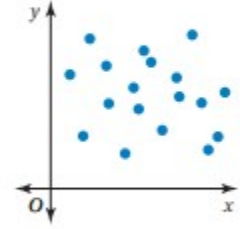
The points lie close to a line. As  $x$  increases,  $y$  decreases.

**Nonlinear Relationship**



The points lie in the shape of a curve.

**No Relationship**

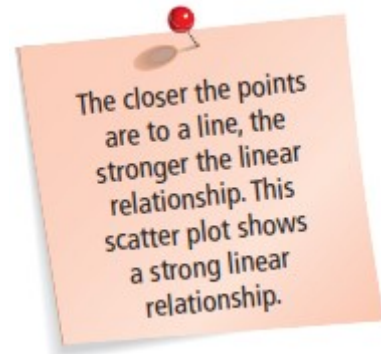
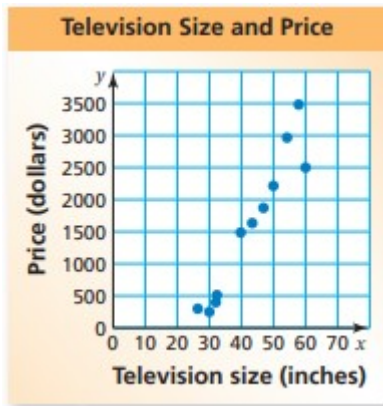


The points show no pattern.

## Identifying Relationships

Ex:) Describe the relationship between the data in the scatter plot.

Notes:



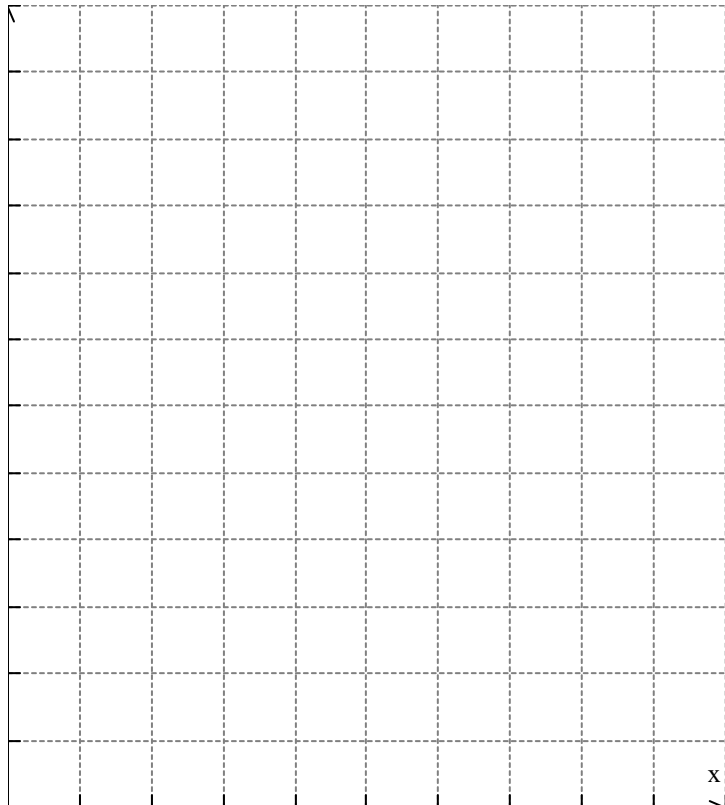
OYO:) Describe the relationship between the data in Ex. 1 (Age VS Cell Phone Data Use).

## Modeling Real Life

Ex:) The table shows the amounts of fat and the numbers of calories in 12 restaurant sandwiches. How many grams of fat do you expect in a sandwich that contains 650 calories?

Notes:

Fat (grams)	Calories
17	400
12	470
29	540
26	510
10	420
42	740
30	600
33	640
44	790
22	510
39	610
28	510



OYO:) The table shows the high school and college grade point averages (GPAs) of 10 students. What college GPA do you expect for a high school student with a GPA of 2.7?

Notes:

<b>High School</b>	2.6	2.8	3.2	4.0	3.8	3.7	3.5	3.5	3.4	1.4
<b>College</b>	2.4	2.5	3.0	3.6	3.5	3.6	3.6	3.4	3.2	0.5

