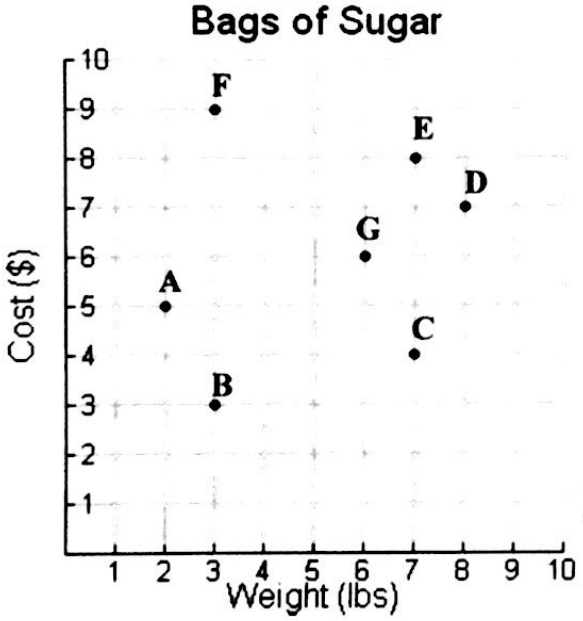
Key

## Math 8 – Unit 12 - Scatter Plots Review

1. Scatter plots can be used to look for trends in data or relationships.
2. What kind of trend is shown when one set of values increases as the other set decreases? Negative
3. What kind of trend is shown when one set of values increases as the other set also increases? Positive
4. What kind of trend is shown when the points show no relationship? No Correlation
5. Determine whether a scatter plot of the following sets of data show a positive, negative, or no correlation.
   - Person's height and telephone number No correlation
   - Time spent studying and grades on a test positive
   - The number of pay-per-view movies ordered and the cable bill positive

**Each point on the graph below represents a different bag of sugar. Use the graph and points to answer questions 6-9.**




6. Which bag is heaviest? D
7. Which bag is the least expensive? B
8. Which bags cost the same price? None
9. Which bags give the same value for the money? B & G

How do you know?

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| $/lb | 5/2 | 3/3 | 4/7 | 7/8 | 8/7 | 9/3 | 6/6 |
| | 2.50 | 1 | .57 | .88 | 1.14 | 3 | 1 |

Same Unit Rate

| Bag | Cost($) | Weight (lbs) | Cost per pound |
|---|---|---|---|
| A | 5 | 2 | 5/2 = $2.50 |
| B | 3 | 3 | 3/3 = $1.00 |
| C | 4 | 7 | 4/7 = $.57 |
| D | 7 | 8 | 7/8 = $.88 |
| E | 8 | 7 | 8/7 = $1.14 |
| F | 9 | 3 | 9/3 = $3.00 |
| G | 6 | 6 | 6/6 = $1.00 |

. A salesman at the local car dealership estimated the number of SUVs that he would sell for a ten month period. He also recorded the actual number of sales he made. The results are given below.

| Month | Estimate of SUVs sold | Actual number of SUVs sold |
|---|---|---|
| January | 2 | 3 |
| February | 5 | 4 |
| March | 5 | 3 |
| April | 9 | 11 |
| May | 12 | 9 |
| June | 8 | 10 |
| July | 13 | 16 |
| August | 14 | 13 |

Use your graphing calculator to find the equation for the line of best fit. m = 1.01 b = .03

Write the equation here $y = 1.01x + .03$

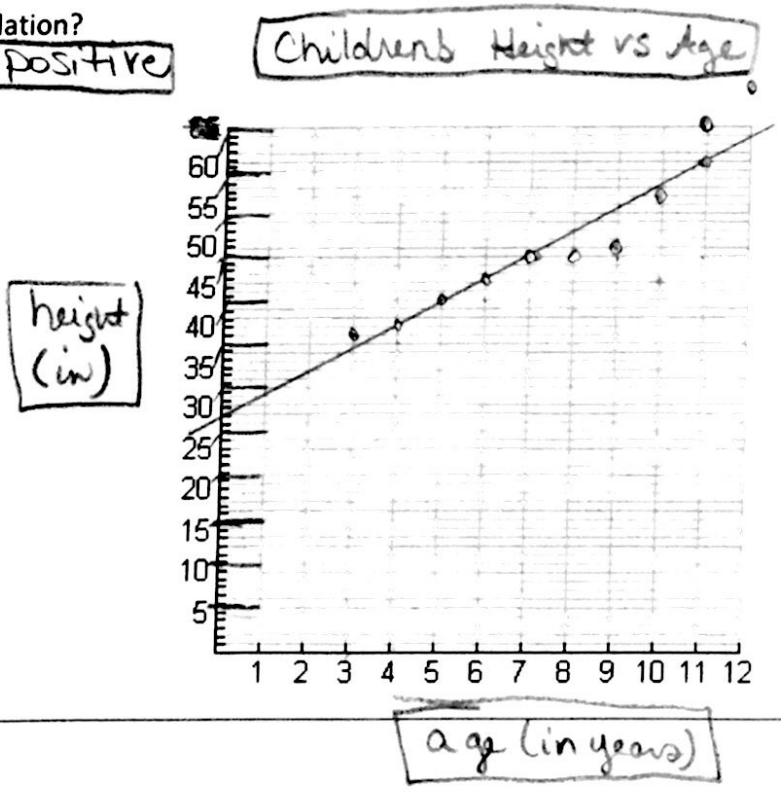
11. The table shows a data set that is obtained by collecting information about ages and heights of a group of children. Display the data by creating a scatter plot.

- ✓ Give the scatter plot a title.
- ✓ Label the x and y axes with age and height.
- ✓ What is the independent variable? age (yrs)
- ✓ What is the dependent variable? height (in)
- ✓ Draw a line of best fit.
- ✓ Choose two points on the line to write an equation for the line of best fit. (5, 40) (6, 42) $\frac{42-40}{6-5} = \frac{2}{1} = 2$ m

  $y = 2x + 27$
- ✓ The data shows what type of correlation? positive

Neighborhood Children

| Age (yrs) | Height (in) |
|---|---|
| 3 | 36 |
| 5 | 40 |
| 8 | 45 |
| 11 | 56 |
| 12 | 64 |
| 10 | 56 |
| 12 | 64 |
| 10 | 52 |
| 4 | 37 |
| 9 | 51 |
| 6 | 42 |
| 7 | 44 |
| 11 | 60 |



2. Students at an elementary school are surveyed as to whether they buy lunch from the cafeteria on a regular basis. Use the table below to ***determine the grade level with the greatest percentage of students who buy lunch at school.***

| Grade Level | Yes | No | Total |
|---|---|---|---|
| K | 10 | 40 | 50 |
| 2 | 70 | 60 | 130 |
| 3 | 30 | 10 | 40 |
| 5 | 30 | 70 | 100 |
| Total | 140 | 180 | 320 |

a) K
10/50
20%

b) 2
70/130
54%

c) 3
30/40
75%

d) 5
30/100
30%

13) The scatter plot shows the capacity of a refrigerator and the cost. Using the scatter plot and trend line, predict the capacity for a refrigerator that costs $600.

A. 15 cubic feet

B. 13 cubic feet

C. 18 cubic feet

D. 25 cubic feet