

Grade

8

Statistics & Probability Worksheets

Name: _____ Date: _____ Hour: _____

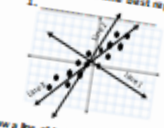
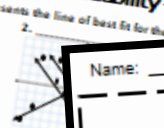
Statistics & Probability - 8.SP.2

Match the following terms to the correct definition.


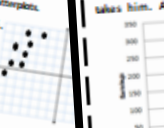
- Positive Association
- Negative Association
- Cluster
- Outlier
- Linear Association
- Non-Linear Association

A. _____
B. _____
C. _____
D. _____

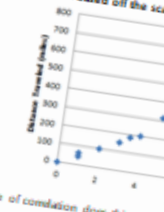
Determine which line best represents the line of best fit for the data.

1.  2. 

Draw a line of best fit for the following scatterplots.

4.  5. 

The following scatterplot shows the distance traveled following questions based off the scatterplot.



7. What type of correlation does this graph show?
8. Predict the distance traveled at $t = 8$.
9. Predict the distance traveled at $t = 14$.
10. Predict the time traveled if the distance traveled is 300 miles.

Name: _____ Date: _____ Hour: _____

Statistics & Probability - 8.SP.4

1. Complete the two-way table using the data provided from a survey of 100 students.

- The same amount of males and females were surveyed
- 65 people had a pet
- 28 Females had a pet
- 13 males did not have a pet

	Pet	No Pet	Total
Male			
Female			
Total			

2. Are there more males or females that have pets?
3. Calculate the percentage of females that have pets.
4. Calculate the percentage of males that have pets.

One of your classmates surveyed the 8th grade class to see what kind of vehicle people would prefer to drive if they had the choice. Answer the questions using the table.

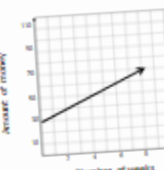
	Truck	Sports Car	Jeep	Total
Male	82	54	37	173
Female	43	52	49	144
Total	125	106	86	317

5. Out of the students surveyed, what percentage are male?
6. What percentage of students preferred driving a truck?
7. What percentage of females preferred driving a truck?
8. What percentage of males preferred driving a truck?
9. What percentage of students preferred driving a sports car?
10. What can you conclude from the data?

Name: _____ Date: _____ Hour: _____

Statistics & Probability - 8.SP.4

8. What does the y -intercept of this graph represent?
9. How much money will be in Josh's bank account after 10 weeks?





By: Math in the Midwest

Statistics & Probability – 8.SP.1

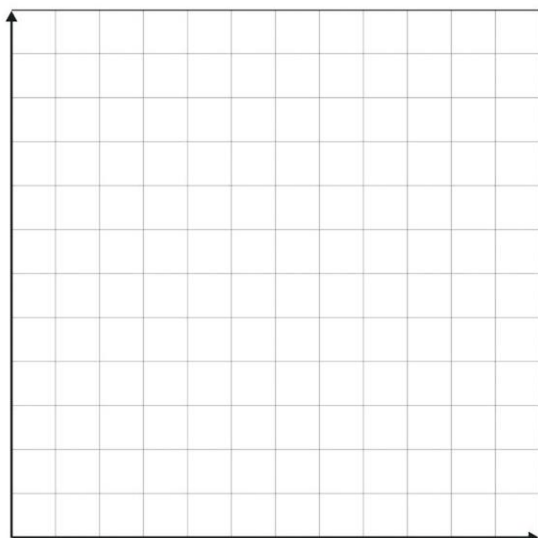
Match the following terms to the correct definition:

- | | |
|---|--|
| <p>_____ 1. Positive Association</p> <p>_____ 2. Negative Association</p> <p>_____ 3. Cluster</p> <p>_____ 4. Outlier</p> <p>_____ 5. Linear Association</p> <p>_____ 6. Non-Linear Association</p> | <p>A. Points that are grouped closely together</p> <p>B. Independent and dependent variable are both increasing</p> <p>C. In a graphical format this type of association is connected in a straight line</p> <p>D. In a graphical format this type of association is not a straight line, could be a curve.</p> <p>E. Point that varies greatly from all other data points</p> <p>F. Dependent variable decreases as the independent variable increases.</p> |
|---|--|

Construct a scatter plot of the following given information showing the amount of time students spend doing homework per week and their overall GPA in school. Be sure to label the graph and answer any other questions.

7.

Time (hours)	2	4	6	8	10	15
GPA	1.4	3.2	2.5	3.0	3.4	3.8



- A. Does this graph have a positive or negative association?

- B. Does this graph have a linear or nonlinear association?

- C. Does this graph have any outliers? If so, explain what the outlier is and why.

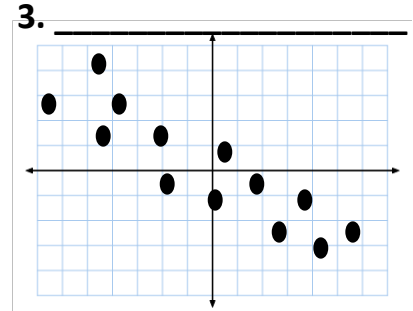
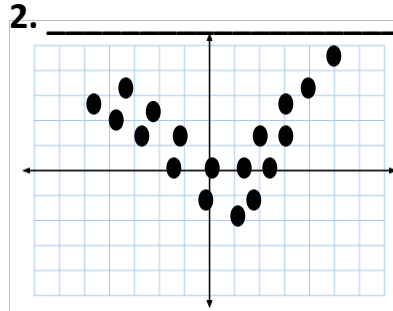
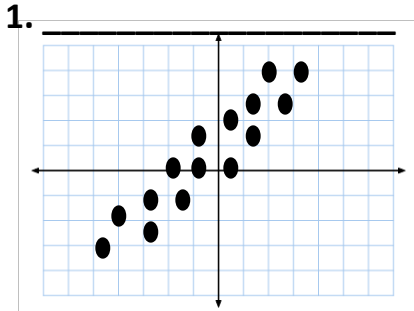
Name: _____

Date: _____

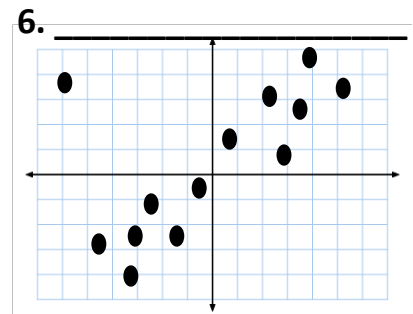
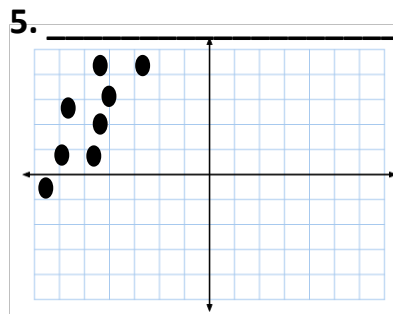
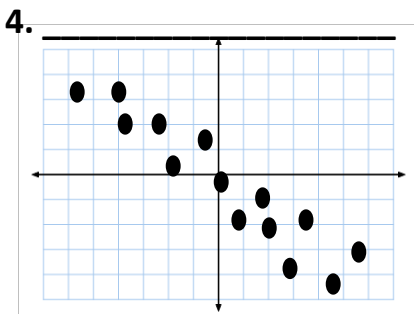
Hour: _____

Statistics & Probability – 8.SP.1

Describe the pattern found in the following scatterplots as linear or nonlinear.



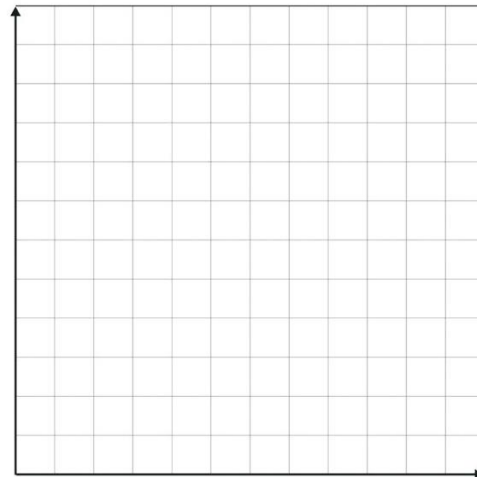
Determine if the following scatterplots have a positive or negative association.



7. Maggie collected data each week to determine if the number of people she followed impacted the number of people following her. Use the data given to construct a scatterplot and answer the following questions.

# of people Maggie Follows	# of People Following Maggie
0	0
20	14
40	30
60	52
80	65
100	85

of People Following Maggie



of People Maggie Follows

A. Is there a positive or negative association? _____

B. Is the scatterplot linear or nonlinear? _____

C. What does the data collected tell Maggie about the impact of the number of people she follows?

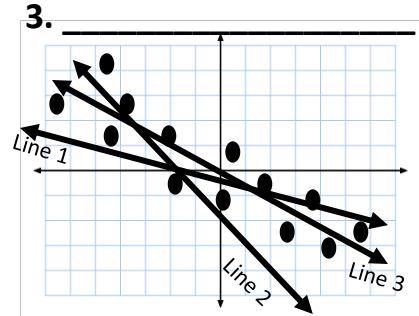
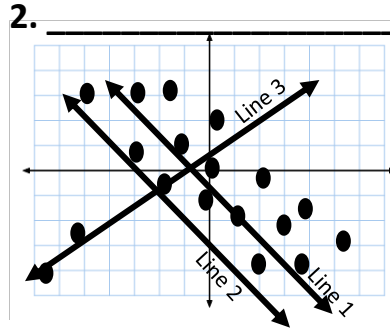
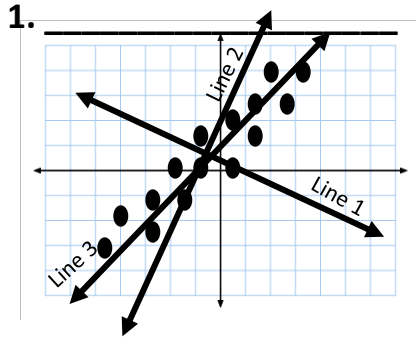
Name: _____

Date: _____

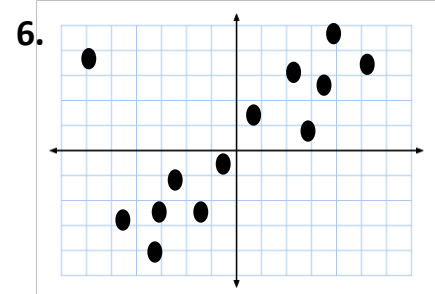
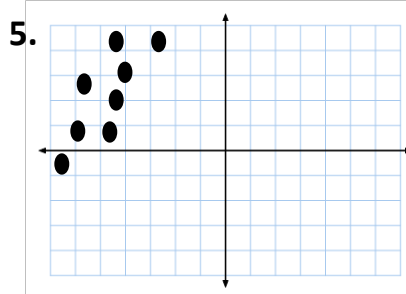
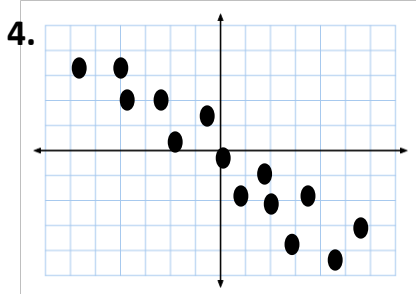
Hour: _____

Statistics & Probability – 8.SP.2

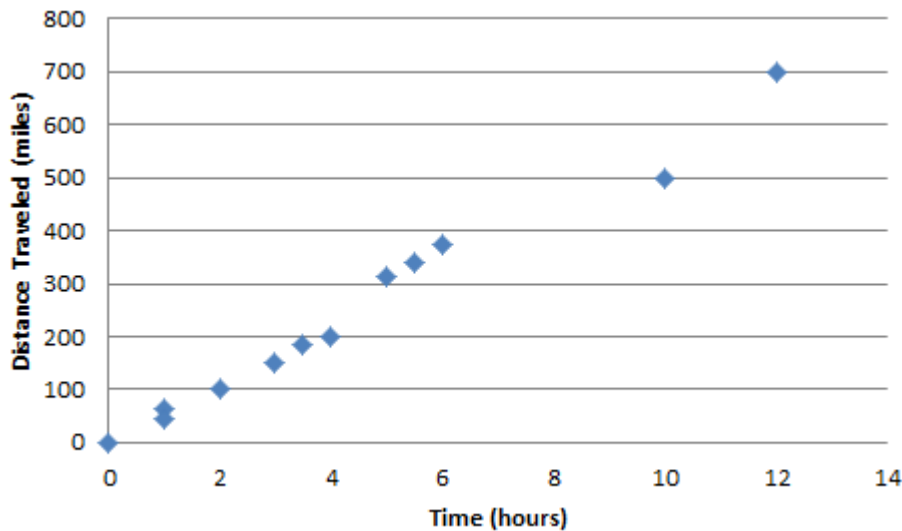
Determine which line best represents the line of best fit for the data.



Draw a line of best fit for the following scatterplots.



The following scatterplot shows the distance traveled in miles vs. time in hours. Answer the following questions based off the scatterplot.



7. What type of correlation does this graph show? _____

8. Predict the distance traveled at $t = 8$. _____

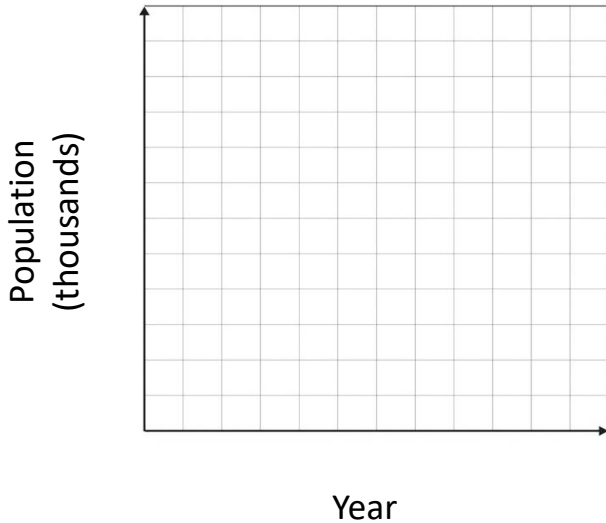
9. Predict the distance traveled at $t = 14$. _____

10. Predict the time traveled if the distance traveled is 300 miles. _____

Statistics & Probability – 8.SP.2

1. The table lists the population of a city from the year 2013 to 2018. Sketch a scatterplot of the data and then answer the following questions.

Year	2013	2014	2015	2016	2017	2018
Population in thousands	90	75	80	60	40	25



2. Draw the line of best fit

3. Does the scatterplot have a positive or negative correlation?

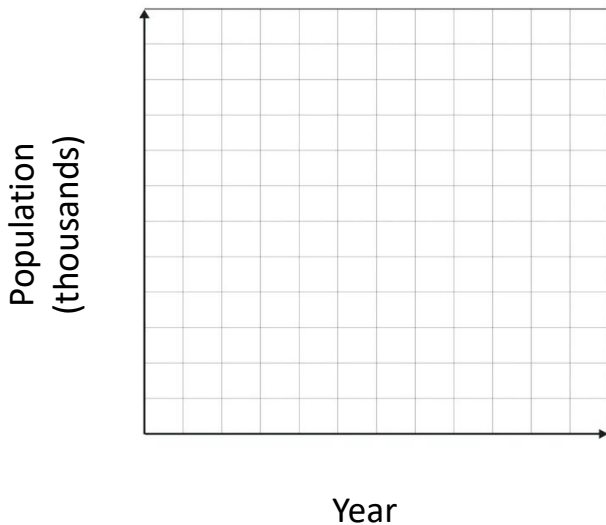
4. Is the scatterplot linear or nonlinear?

5. Write the equation of the line.

6. Predict what the population will be in the year 2020.

7. The table lists the population of a city from the year 1980 to 1985. Sketch a scatterplot of the data and then answer the following questions.

Year	1980	1981	1982	1983	1984	1985
Population in thousands	10	20	40	65	84	100



8. Draw the line of best fit

9. Does the scatterplot have a positive or negative correlation?

10. Is the scatterplot linear or nonlinear?

11. Write the equation of the line.

12. Predict what the population was in year 1975.

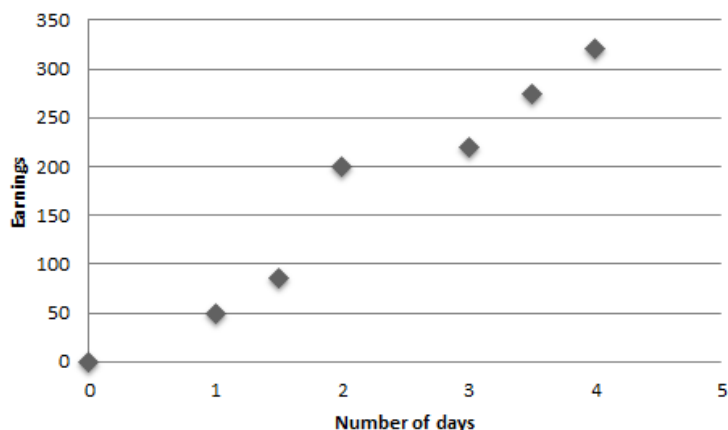
Name: _____

Date: _____

Hour: _____

Statistics & Probability – 8.SP.3

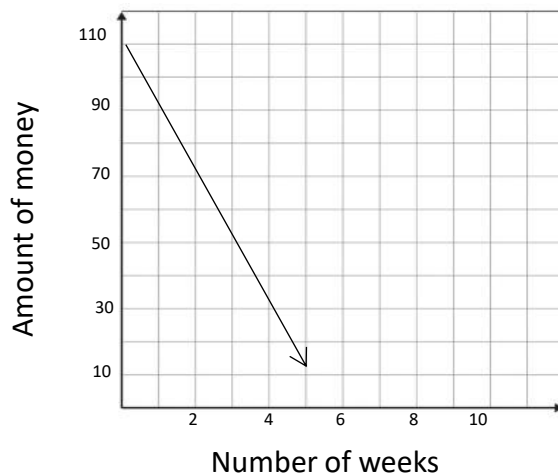
The scatterplot shows the earnings a painter makes depending on how many days the job takes him. Answer the following questions using the scatterplot.



1. How much money will the painter make if he works for 1 day? _____
2. How much money will the painter make if he works for 5 days? _____
3. How much money is the painter making on average each day? _____

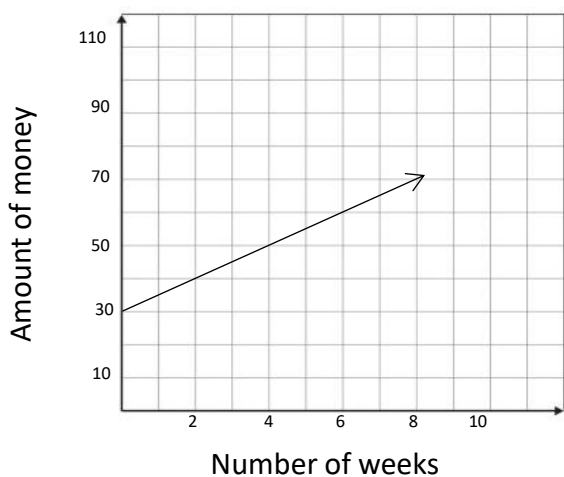
The following graph shows the amount of money Josh has in his savings account. The equation represented by this graph is $y = -20x + 110$.

4. What does the slope of this graph represent?
5. What does the y – intercept of this graph represent?
6. After how many weeks will there be \$0 left in the savings account?



The following graph shows the amount of money Josh has in his savings account. The equation represented by this graph is $y = 5x + 30$.

7. What does the slope of this graph represent?
8. What does the y – intercept of this graph represent?
9. How much money will be in Josh's bank account after 10 weeks?



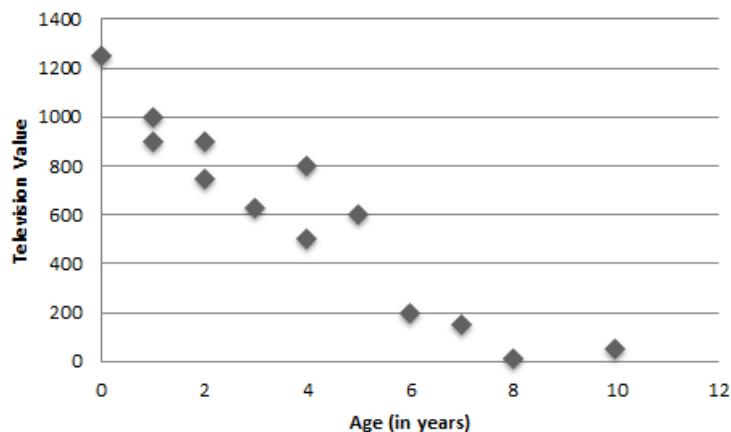
Name: _____

Date: _____

Hour: _____

Statistics & Probability – 8.SP.3

The scatterplot shows the value of a TV in dollars over the time in years. Answer the following questions based on the scatterplot.



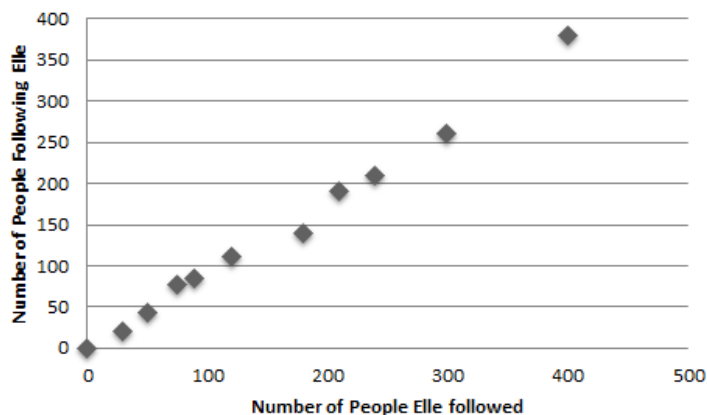
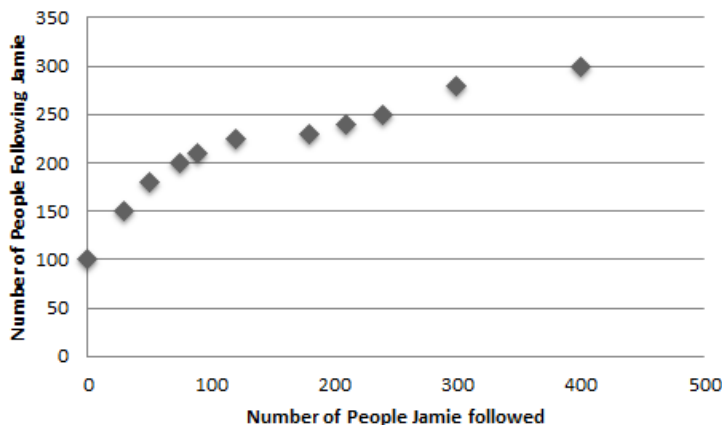
1. Draw a line of best fit and create an equation for the data.

2. What does the slope of the equation mean?

3. What does the y – intercept of the equation mean?

4. Based on the data what would you expect the price of a TV to sale for after 5 years?

Jamie and Elle are best friends and are curious about how the number of people they follow on social media effects the number of people that follow them. Use the two scatterplots below to answer questions based off of Jamie and Elle’s findings.



5. Create a line of best fit for both Jamie and Elle’s scatterplots

6. What is the equation for Jamie’s scatterplot? _____

7. What is the equation for Elle’s scatterplot? _____

8. What does the slope and y – intercept mean for Jamie’s scatterplot?

9. What does the slope and y – intercept mean for Elle’s scatterplot?

10. Who can expect to have more people following them if they both hit 1,000 people that they follow?

Name: _____

Date: _____

Hour: _____

Statistics & Probability – 8.SP.4

1. Complete the following two way frequency table.

	Pets	No Pets	Total
Male	18	6	
Female	23	13	
Total			

2. Calculate the percentage of females who do not have a pet.

3. Calculate the percentage of males who do not have a pet.

4. Calculate the total percentage of people who have a pet.

5. Calculate the total percentage of people who do not have a pet.

6. Complete the following two way frequency table.

	Band	PE	Health	Total
7 th	41	45	17	
8 th	37	54	21	
Total				

7. Which grade had the most people interested in PE?

8. Which grade had the most people interested in band?

4. Calculate the total percentage of people who are in PE.

5. Calculate the total percentage of 8th graders who are in health.

6. Calculate the total percentage of 7th graders who are in band.

7. Which grade had the highest percentage of people who preferred health?

8. If you could only choose two classes to be offered for 7th and 8th graders what would they be and why?

Name: _____ Date: _____ Hour: _____

Statistics & Probability – 8.SP.4

1. Complete the two-way table using the data provided from a survey of 100 students.

- The same amount of males and females were surveyed
- 65 people had a pet
- 28 Females had a pet
- 13 males did not have a pet

	Pet	No Pet	Total
Male			
Female			
Total			

2. Are there more males or females that have pets?

3. Calculate the percentage of females that have pets.

4. Calculate the percentage of males that have pets.

One of your classmates surveyed the 8th grade class to see what kind of vehicle people would prefer to drive if they had the choice Answer the questions using the table.

	Truck	Sports Car	Jeep	Total
Male	82	54	37	173
Female	43	52	49	174
Total	125	106	86	347

5. Out of the students surveyed, what percentage are male?

6. What percentage of students preferred driving a truck?

7. What percentage of females preferred driving a jeep?

8. What percentage of males preferred driving a truck?

9. What percentage of students preferred driving a sports car?

10. What can you conclude from the data?