Grade 8

Statistics & Probability Exam

2 QUESTIONS PER STANDARD

By: Math in the Midwest
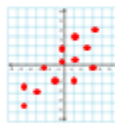
Name: _____   Date: _____   Hour: _____

8ᵗʰ Grade Mathematics
Statistics & Probability

8.SP.1

Match the following terms to the correct definition

1. _____ cluster
2. _____ outlier
3. _____ negative association
4. _____ positive association

A. Independent and dependent variable are both increasing
B. Point that varies greatly from all the other data
C. Points that are grouped closely together
D. Dependent variable decreases as the independent variable increases

8.SP.1

The table shows the amount of time students spend doing homework per week and their overall GPA in school.

Time(hours)	1	5	10	15
GPA	1.7	2.3	2.9	3.4

A. Does there appear to be a linear or non-linear association?

A. Is there a positive or negative association?

8.SP.2

Construct a line of best fit for the following scatterplot
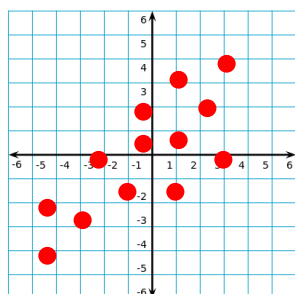
8.SP.2

Fill in the blanks

A line of best fit is a _____ line that is close to as many _____ as possible. A line of best fit can be used to make _____ about the data.

Explain how to draw a line of best fit for the following scatterplot.
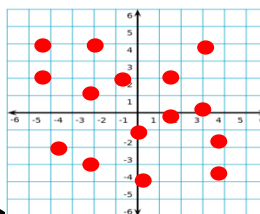
8.SP.3

The equation represents how much money Emma has in her savings account. The equation is
$$y = -25x + 130.$$

Explain what the slope and y – intercept mean in the context of this situation.

8.SP.3

Alex recorded the growth of a plant over 25 weeks. The equation $y = 0.32x + 5$ represent the height (y) in inches over the time (x) in weeks.

A. What does the .32 stand for in the equation?

B. What does the 5 stand for in the equation?

C. How tall would the plant be after 4 weeks?

8ᵗʰ Grade Mathematics
Statistics & Probability

8.SP.4

Complete the following frequency table:

	Pets	No Pets	Total
Male	5	12	
Female	12	7	
Total			

1. **How many total people are represented?**

2. **How many more females are represented than males?**

8.SP.4

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

	Tech	Art	Band	Total
7ᵗʰ	30	18	42	
8ᵗʰ	45	20	35	
Total				

REFLECTION

A. What do you feel like you understand the most about statistics & probability?

_____
_____
_____
_____

B. What is one area you would like to understand better about statistics & probability?

_____
_____
_____
_____

C. CIRCLE the effort (10: MAXIMUM EFFORT) you gave and put a BOX (10: YOU COULD TEACH THIS TO SOMEONE ELSE) around how you would rate your UNDERSTANDING of the content using the number line below.

$\longleftarrow$ 1 2 3 4 5 6 7 8 9 10 $\longrightarrow$

8th Grade Mathematics
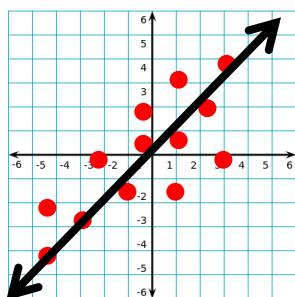# Statistics & Probability

8.SP.1

Match the following terms to the correct definition

1. __C__ cluster
2. __B__ outlier
3. __D__ negative association
4. __A__ positive association

A. Independent and dependent variable are both increasing
B. Point that varies greatly from all the other data
C. Points that are grouped closely together
D. Dependent variable decreases as the independent variable increases

8.SP.1

The table shows the amount of time students spend doing homework per week and their overall GPA in school.

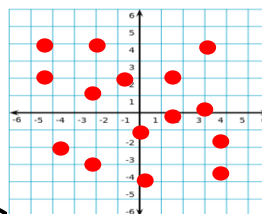| Time(hours)	1	5	10	15
GPA	1.7	2.3	2.9	3.4

A. Does there appear to be a linear or non-linear association?

linear

A. Is there a positive or negative association?

positive

8.SP.2

Construct a line of best fit for the following scatterplot

8.SP.2

Fill in the blanks

A line of best fit is a __straight__ line that is close to as many __points__ as possible. A line of best fit can be used to make __predications__ about the data.

Explain how to draw a line of best fit for the following scatterplot.

No Association

8.SP.3

The equation represents how much money Emma has in her savings account. The equation is $y = -25x + 130$. If y represents the total amount of money in her account after x amount of weeks. Explain what the slope and y – intercept mean in the context of this situation.

130 represents that Emma has 130 in her account at 0 weeks (start of her account) and she is losing or taking out 25 dollars every week.

8.SP.3

Alex recorded the growth of a plant over 25 weeks. The equation $y = 0.32x + 5$ represent the height (y) in inches over the time (x) in weeks.

A. What does the .32 stand for in the equation?
How much the plant is growing every week

B. What does the 5 stand for in the equation?
The height of the plant at 0 weeks

C. How tall would the plant be after 4 weeks?

6.28 inches

8ᵗʰ Grade Mathematics
Statistics & Probability

8.SP.4

8.SP.4

Complete the following frequency table:

	Pets	No Pets	Total
Male	5	12	17
Female	12	7	19
Total	17	19	36

1. **How many total people are represented?**

   36 people

2. **How many more females are represented than males?** **2 more females**

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

	Tech	Art	Band	Total
7ᵗʰ	30	18	42	
8ᵗʰ	45	20	35	
Total				

Answers will vary depending on students reasoning

REFLECTION

A. What do you feel like you understand the most about statistics & probability?

_____
_____
_____
_____

B. What is one area you would like to understand better about statistics & probability?

_____
_____
_____
_____

C. CIRCLE the effort (10: MAXIMUM EFFORT) you gave and put a BOX (10: YOU COULD TEACH THIS TO SOMEONE ELSE) around how you would rate your UNDERSTANDING of the content using the number line below.

$$\longleftarrow \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad \longrightarrow$$
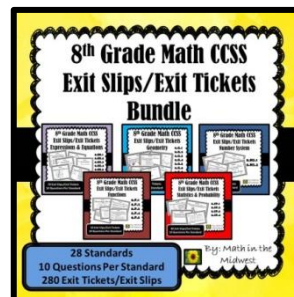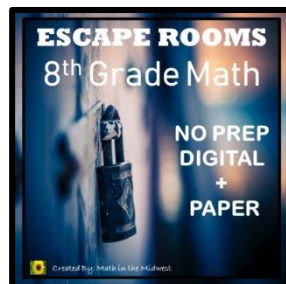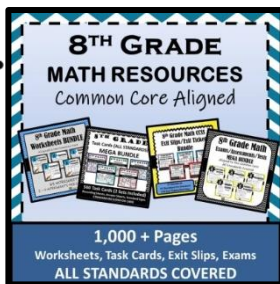
Terms of Use

Terms of Use Permission is granted to copy pages specifically for student or teacher use only by the original purchaser or licensee. The reproduction of this product for any other use is strictly prohibited.

Be the first to know about my new discounts, freebies, and product launches. Click the link below to become a follower!

https://www.teacherspayteachers.com/Store/Math-In-The-Midwest

More of my 8th Grade Math Resources:

Credit & many thanks to: