

Learning Target 1: I can create an appropriate scatter plot for the given data. (HSS-ID.B.6)

The prices of the eight top-selling brands of shoes at Kennedy's House of Shoes are given in the table below.

Sales Rank	1	2	3	4	5	6	7	8
Price (\$)	43	44	50	61	64	135	108	78

1. Identify the independent and dependent variables.

Independent: Sales rank

Dependent: Price

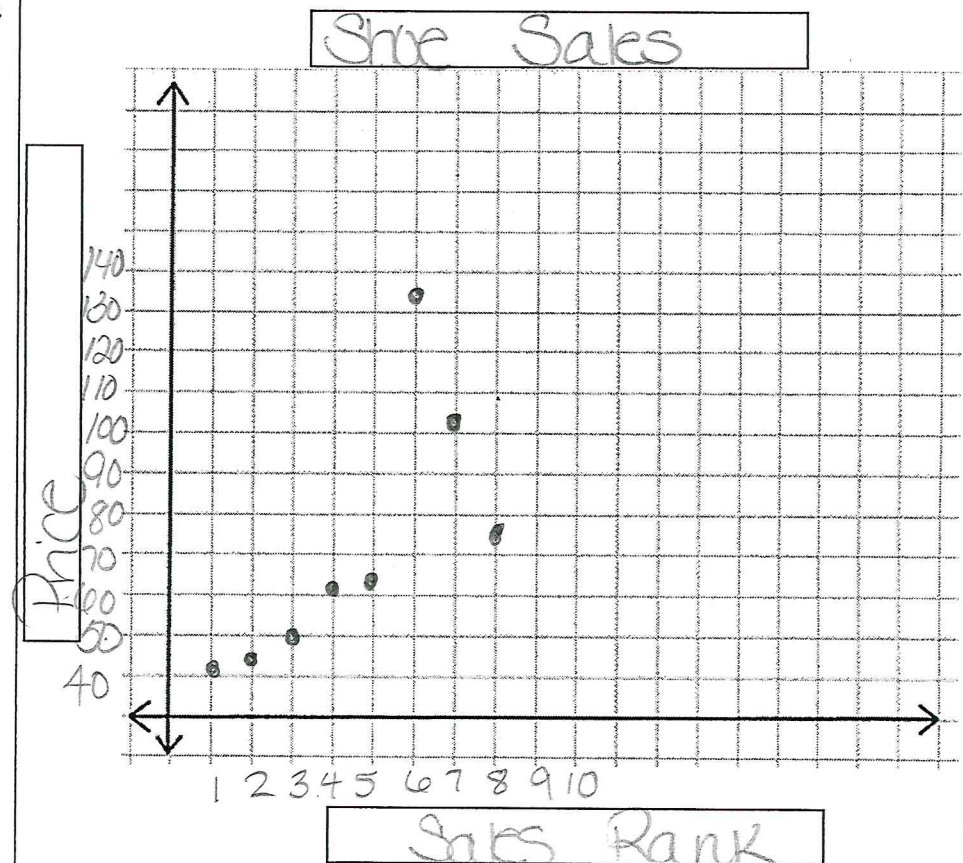
2. Graph the data. Make sure to include the following:

--Title of scatter plot

--Label each axis

--Choose the appropriate increments for each axis.

--Plot each of the data points accurately.



Learning Target 3: I can determine whether the scatterplot shows a positive, negative, or no correlation for the given data.

4. Do you see a positive, negative or no correlation?

Circle your answer choice

Positive

Negative

No Correlation

5. Create a scatterplot on your calculator.	
6. What is the correlation coefficient?	Round your answer to the hundredths place. $r = .73$
7. Does this indicate a strong correlation? Explain your reasoning	Yes or No <u>No</u> It shows a weak positive relationship because the c.c. is between .86 and .5 Explain: <u>is between .86 and .5</u>
8. Use the calculator to find slope (m)	Round your answer to the hundredths place. $m = 9.80$
9. Use the calculator to find the y-intercept	Round your answer to the hundredths place. (b): <u>28.79</u>
10. Write the linear regression equation in slope intercept form.	Equation: <u>$y = 9.80x + 28.79$</u>
Learning Target 4: I can use the given data and scatterplot to make predictions.	
11. Using the equation, what would be the price of a pair of the 11 th best-selling brands of jeans?	Round your answer to the hundredths place. $y = 9.80(11) + 28.79$ Price: <u>\$136.59</u>
12. Using the equation, what would sales rank be for a pair of shoes that cost \$160.00?	$160 = 9.80x + 28.79$ Sales Rank: <u>13th place</u>

Learning Target 5: I can use deductive reasoning to determine the correlation between real-life data. (HSF-LE.A.1)

Would you expect a *positive correlation*, *negative correlation*, or *no correlation* between the two sets of data? Give a clear reason for your choice.

1.) The distance that a person rides their bike and the amount of calories burned.

There is a positive (positive/negative/no correlation) because

The more you ride your bike the more calories you burn. (↑↑)

2.) The amount of free time a person has and the amount of time they spend working.

There is a negative (positive/negative/no correlation) because

The more time you work the less free you have. (↑↓)

3.) A person's height (inches) and the number of pets they own. (1 pt.)

There is a No correlation (positive/negative/no correlation) because

There is no relationship between how tall someone is and the number of pets they have.