

Name: _____ Date: _____

Scatter Plot Infographic

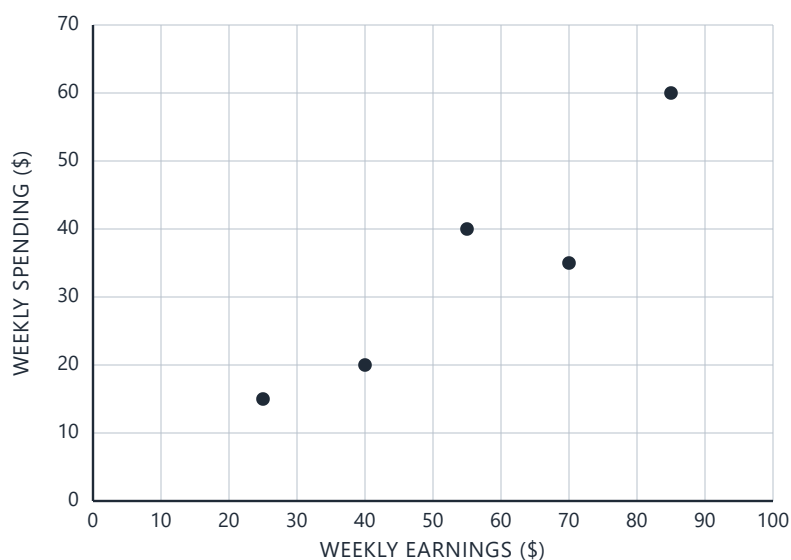
GRADE 8

MATHEMATICS

D1.4

A scatter plot is an argument about two variables, and the most interesting dot is usually the one that disagrees with the rest. Five students are plotted below.

Weekly Earning and Spending



Source: our class transaction records

PART A: THE FIGURES YOUR INFOGRAPHIC WILL QUOTE

1. The student earning \$55 kept \$_____.
2. The student earning \$70 kept \$_____.

PART B: READ AGAINST THE TREND

3. Which student sits furthest from the trend of spending more as earnings rise, and why?

SHOW YOUR WORK

Answer: _____

4. What percent of their earnings does the student earning \$85 spend?

SHOW YOUR WORK

Answer: _____

PART C: WHAT IT DOES AND DOES NOT SHOW

5. A scatter plot shows a relationship, but it does not show:
- Ⓐ which of the two causes the other
 - Ⓑ how two values pair up
 - Ⓒ whether the values tend to rise together
6. An infographic differs from a single graph because it:
- Ⓐ combines several displays with text to tell one story
 - Ⓑ is restricted to circle graphs
 - Ⓒ shows a single number

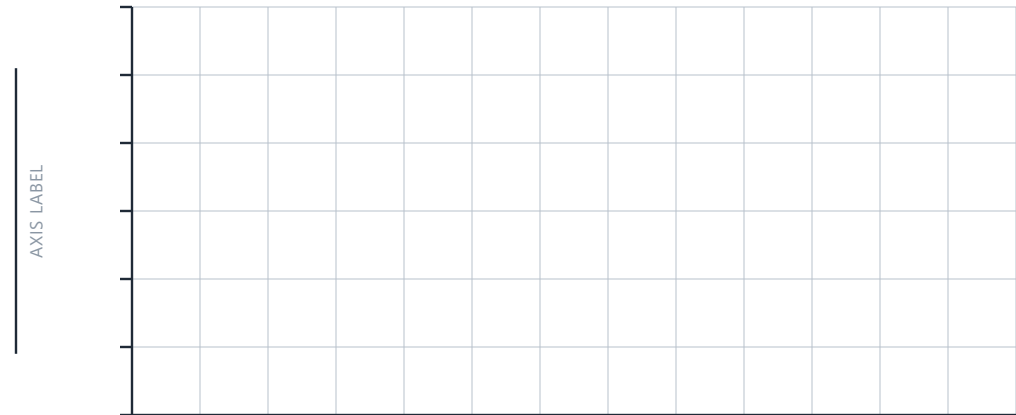
PART D: BUILD IT

7. Build the infographic for this data. Draw the scatter plot with both axes labelled and a scale that fits, fill in the table below for all five students, give the whole thing a title, and name the source.

Infographic Table

Earnings	Spending	Savings

TITLE _____



WHERE THE NUMBERS CAME FROM _____

8. Add one sentence stating the claim the data supports.

- 9.** A claim on an infographic has to be checkable. Using your table, how much more did the biggest saver keep than the smallest saver, and which earnings did each have?

SHOW YOUR WORK

Answer: _____

- 10.** What percent of their earnings did the biggest saver keep, and is that a claim your infographic could print?

SHOW YOUR WORK

Answer: _____

1. 15
2. 35
3. The one earning \$70 spends only \$35, half of what they earn, while the student earning less at \$55 spends \$40, so the \$70 dot sits well below the rising line the others form. A student who names the \$55 one is also right if they say it spends more than a classmate who earns more, because no line of best fit is drawn and both dots break the pattern; mark the reasoning rather than the name.
4. About 71%.
5. A) which of the two causes the other
6. A) combines several displays with text to tell one story
7. Five plotted points at (25,15), (40,20), (55,40), (70,35) and (85,60), weekly earnings across the bottom and weekly spending up the side, both axes labelled with a scale counting in twenties. A table of five rows giving earnings, spending and savings (\$10, \$20, \$15, \$35 and \$25). A title such as "Earning and Spending in Our Class" and a source line naming the class transaction records.
8. A claim such as "students who earn more tend to spend more, and the one who earns most is not the one who keeps most".
9. \$25 more. The student earning \$70 kept the most at \$35, and the student earning \$25 kept the least at \$10.
10. 50%, because \$35 is half of \$70. Yes, because it can be checked against the table and the plotted point.

TEACHER NOTES

Extension beyond the grade-level expectation: the data is built so the highest saver is not the highest earner, which is what makes the outlier question worth asking. Part C question 1 is the correlation-is-not-causation point, stated in a form students can answer.