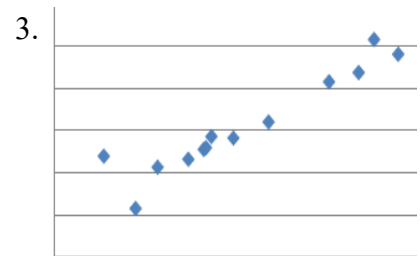
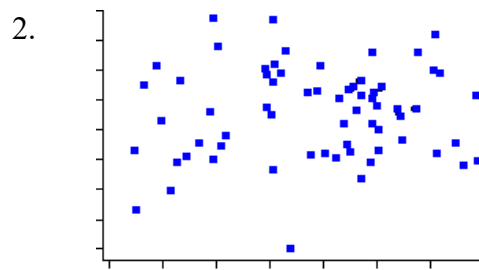
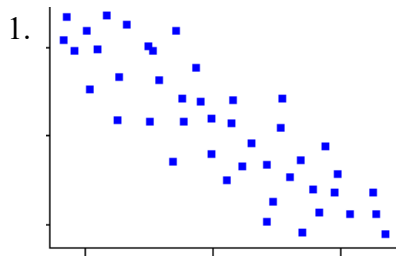


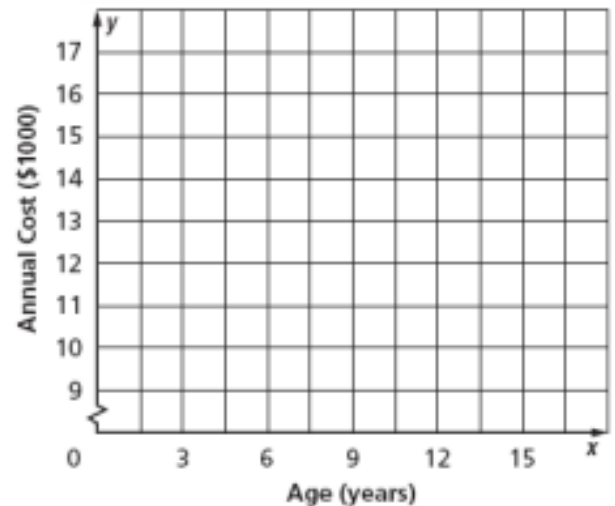
Describe the graphs direction and strength, then approximate the correlation coefficient.



4. **FAMILY** The table below shows the predicted annual cost for a middle income family to raise a child from birth until adulthood. Draw a scatter plot and describe what relationship exists within the data.

Cost of Raising a Child Born in 2003					
Child's Age	3	6	9	12	15
Annual Cost (\$)	10,700	11,700	12,600	15,000	16,700

- Describe the correlation. Include the value of r .
- Approximate the equation for the best-fitting line using the calculator.
- Describe the slope in context.



- Describe y-intercept in context. Does this value make sense?

- Use your equation to predict the annual cost when the child is 17 years old.

5. A student who waits on tables at a restaurant recorded the cost of meals and the tip left by single diners.

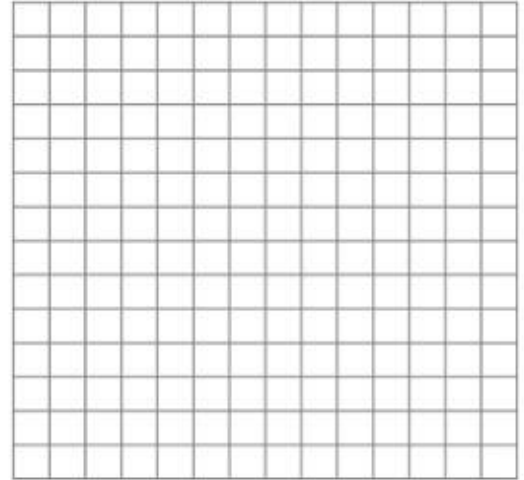
Meal Cost	\$4.75	\$6.84	\$12.52	\$20.42	\$8.97
Tip	\$2.00	\$2.00	\$1.00	\$6.50	\$0.50

- a) State the explanatory and response variables.

Explanatory Variable: _____

Response Variable: _____

- b) Construct a scatterplot of the data
c) Describe the correlation. Include the value of r .



- d) What would happen to the correlation if we switched the explanatory and response variables?

- e) Approximate the equation for the best-fitting line using the calculator.

- f) Describe the slope in context.

- g) Describe y-intercept in context. Does this value make sense?

- h) If the next diner orders a meal costing \$10.50, how much tip should the waiter expect to receive?

- i) If the waiter received a \$7.50 tip, how much would the expected meal cost be?

- j) Name at least 2 reasons a waiter's tip could be affected besides how much the meal cost.

6. The table below gives the number of hours spent playing video games a week and the final exam averages in a science class.

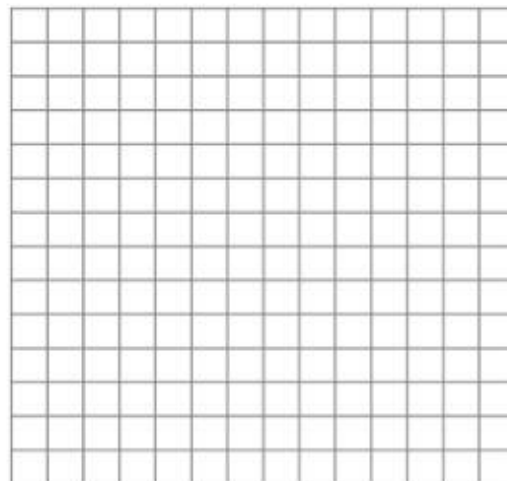
VIDEO GAMES	2	5	1	0	4	2	3	0
GRADE	90	27	72	96	75	87	77	100

- a) State the explanatory and response variables.

Explanatory Variable: _____

Response Variable: _____

- b) Construct a scatterplot of the data
c) Describe the correlation. Include the value of r .



- d) What would happen to the correlation if we measured video game time in minutes instead of hours?

- e) Approximate the equation for the best-fitting line using the calculator.

- f) Describe the slope in context.

- g) Describe y-intercept in context. Is this value helpful in this context?

- h) Calculate the predicted exam grade if someone plays 10 hours of video games a week.

- i) If someone scored an 82% on their exam, how long would you have expected them to play video games that week?

- j) Name at least 2 reasons someone's test score could be affected besides how much time they play video games.