

Name: _____

Date: _____

Period: _____

SECTION 10 QUIZ REVIEW

At Bear Lakes Middle School, 635 students were asked which social media site they updated the most on a daily basis. 75 seventh graders said they used Instagram the most. There were a total of 321 students that said Facebook was the most updated. Of the 247 eighth graders, 23 of them updated Instagram the most. There are 181 sixth graders at Bear Lakes. Of the 158 Twitter users, 45 of them were sixth graders. There were 123 eighth graders using Facebook. Complete the frequency table below.

	Sixth Grade	Seventh Grade	Eight Grade	Total
Facebook	78	120	123	321
Instagram	58	75	23	156
Twitter	45	12	101	158
Total	181	207	247	635

Part A: How many students used Instagram in total?

156

Part B: What is the joint frequency for seventh graders using Facebook?

120

Part C: What is the marginal frequency for all Twitter users?

158

Part D: List the highest marginal frequency.

321 Facebook total

Part E: What percent of students preferred Facebook?

$$\frac{321}{635} = 50.6\%$$

Part F: What type of frequency does 207/635 represent?

Marginal relative frequency of 7th graders out of overall total.

Part G: What is the percentage of sixth graders that use twitter?

$$\frac{45}{181} = 24.9\%$$

Part H: What percentage of Instagram users are eighth graders?

$$\frac{23}{156} = 14.7\%$$

2. Use the scatter plot to the right to answer the following questions.

New Submissions to Tampa Tribune

Part A: What do the values on the x-axis represent?

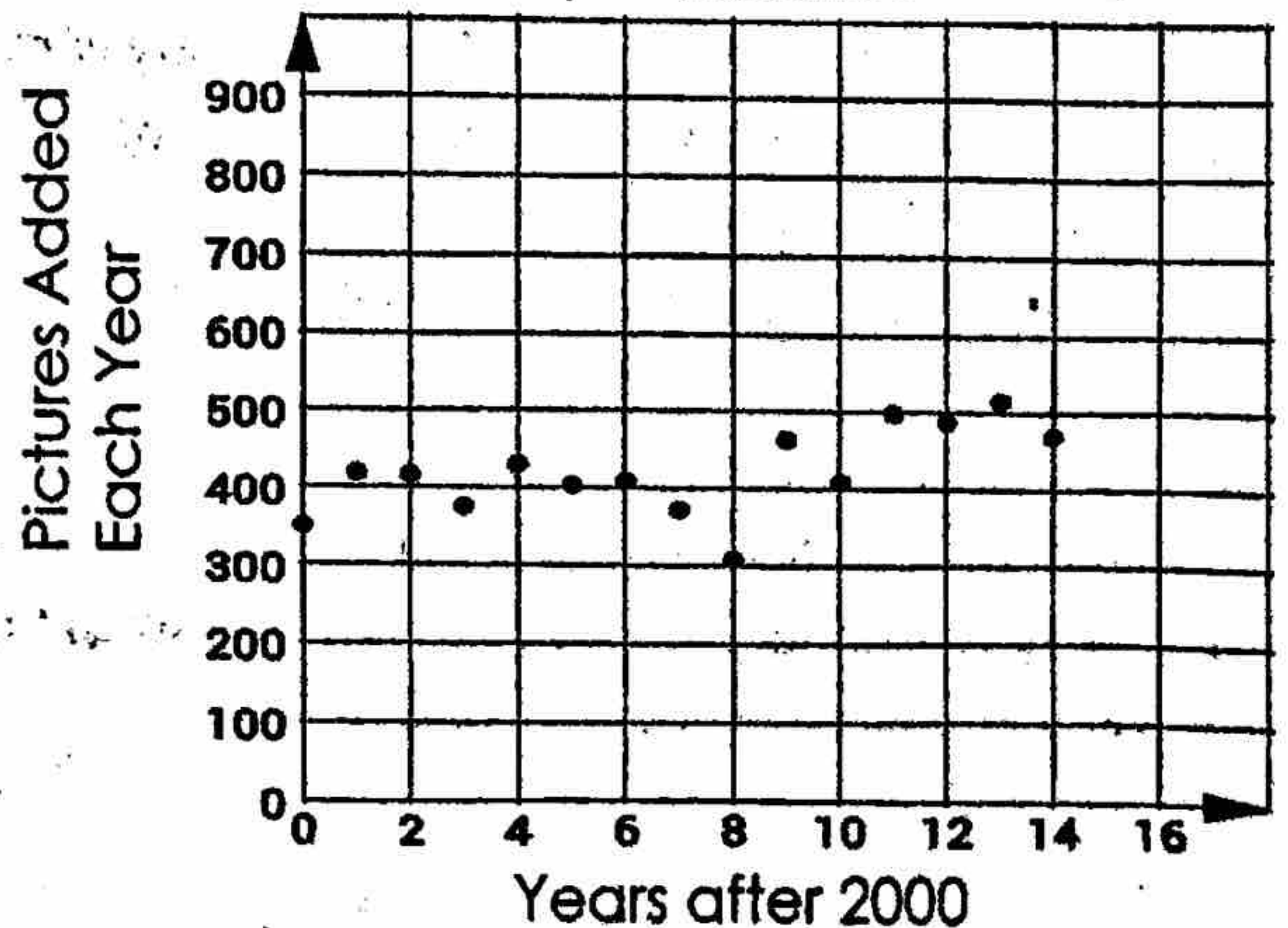
Years after 2000

Part B: What do the values on the y-axis represent?

Pictures added each year

Part C: What does the value (6, 410) represent?

In year 2006, 410 photos were added.



Part D: What type of correlation is there in the scatter plot?

moderately strong positive linear

Part E: Is the correlation positive, negative, zero or undetermined?

positive

Part F: Which of the following is closest to the regression line equation?

- A. $f(x) = 366x + 8$ B. $f(x) = 13.4361(1.0079)^x$ C. $f(x) = 8x + 366$ D. None of the above is close enough

Part G: In approximately what year is the Tampa Tribune expecting to add 700 new pictures per year to their database?

$$700 = 8x + 366$$

$$42 \approx x$$

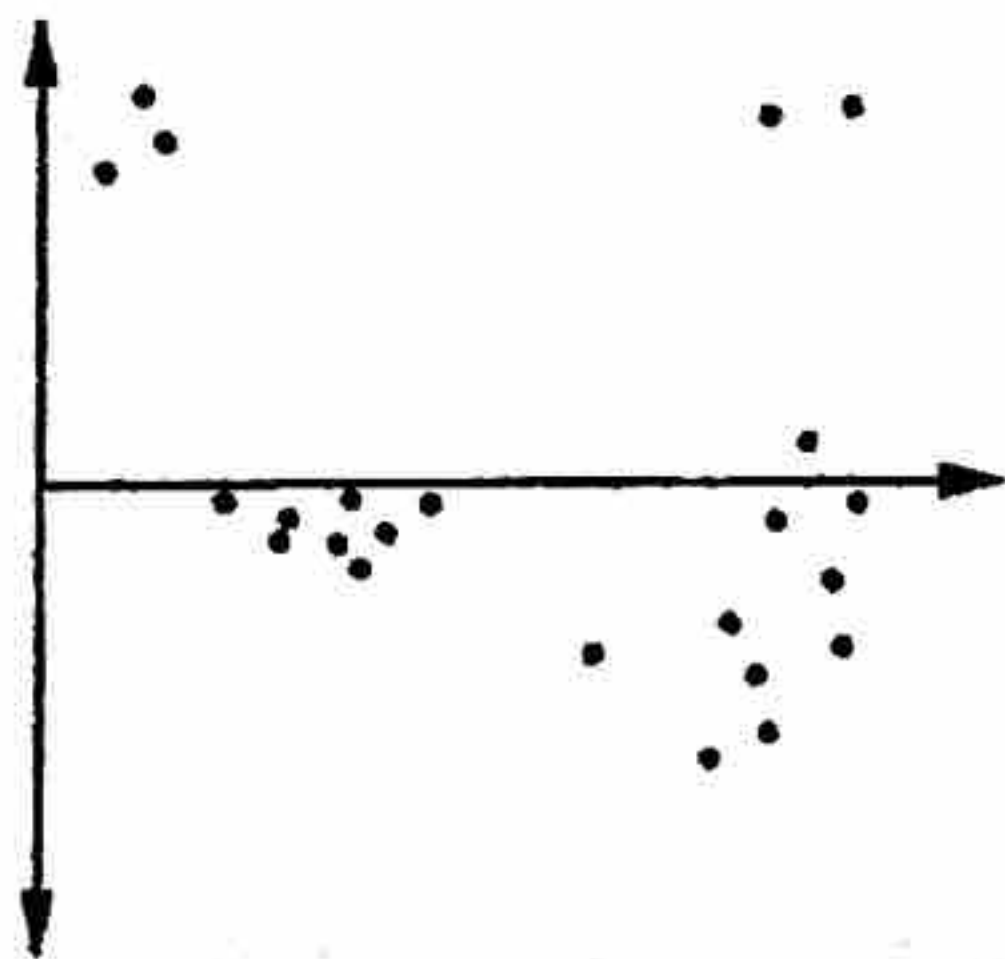
2042

3. If a data set has an exponential trend and a linear function is fit to the data, what will the residual plot look like?

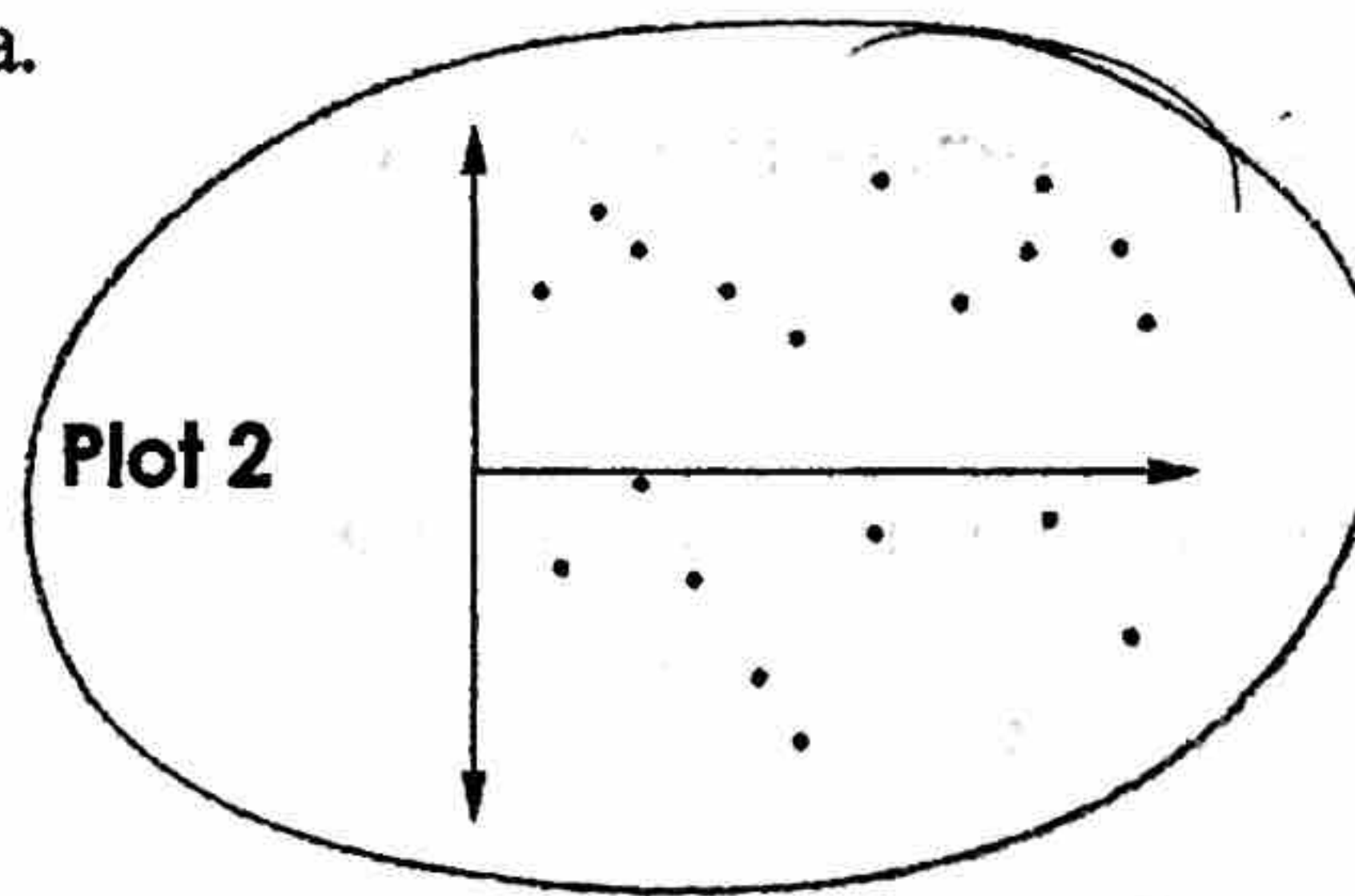
It will make a shape or pattern

4. A model was fit for a data set using linear regression. Residual plots for two data sets are shown below. Determine and justify which one could represent the data.

Plot 1



Plot 2



Because it's scattered around 0.

Select all cases where there is a causal relationship.

- There is a strong positive correlation between the number of touchdowns per football game and the final score of the football game.
- The number of umbrellas sold is positively correlated to precipitation levels.
- The number of stops a school bus makes on the morning route is negatively correlated with how many students ride a particular bus.
- There is a strong negative correlation between the age and the number of toys purchased for one's birthday.
- There is a moderate positive correlation between the amount of rice a family eats per month and the amount of oranges sold per month in the South of the U.S.
- There is a strong positive correlation between the number of cigarettes consumed and the number of cases of lung cancer diagnoses.