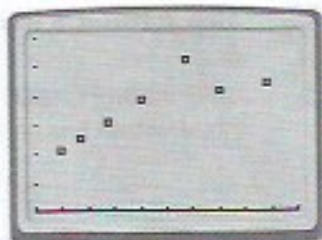**Step 1: Create a scatter plot of the data.**

Let x represent the number of photos taken, and let y represent the number of photos kept. Use a viewing window that shows x-values from 100 to 200 and y-values from 0 to 60.

Notice that the trend in the data appears to be roughly linear, with y-values generally increasing as x-values increase.

Step 2: Perform linear regression. Write the linear model and its domain.

The linear regression model is $y = 0.33x - 11.33$. Its domain is $\{x | 110 \leq x \leq 188\}$.
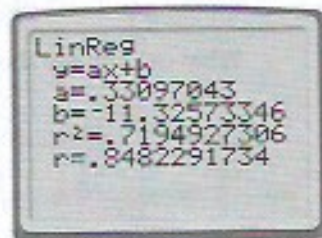
Step 3: Graph the model along with the data to obtain a visual check on the goodness of fit.

Notice that one of the data points is much farther from the line than the other data points are. The value of the correlation coefficient r would be closer to 1 without this data point.
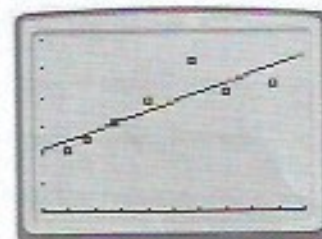
Step 4: Predict the number of photos this photographer will keep if she takes 150 photos.

Evaluate the linear function when $x = 150$: $y = 0.33(150) - 11.33 \approx 38$. So, she will keep about 38 photos if she takes 150 photos.

Ⓑ As a science project, Shelley is studying the relationship of car mileage (in miles per gallon) and speed (in miles per hour). The table shows the data Shelley gathered using her family's vehicle. Use a graphing calculator to create a scatter plot of the data, find a linear regression model, and graph the model. Then use the model to predict the gas mileage of the car at a speed of 20 miles per hour.

Speed (mi/h)	30	40	50	60	70
Mileage (mi/gal)	34.0	33.5	31.5	29.0	27.5

Step 1: Create a scatter plot of the data.

What do x and y represent?

_____

_____

What viewing window will you use?

_____

_____

What trend do you observe?

_____

_____