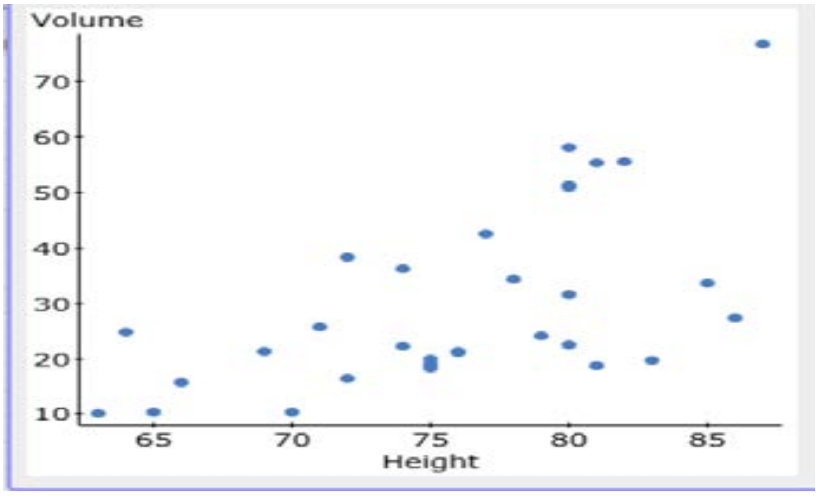


Simple linear regression results: Dependent Variable:

Volume Independent Variable: Height Volume = -87.123614 + 1.5433498

Height Sample size: 31

R (correlation coefficient) = 0.59824965

R-sq = 0.35790265

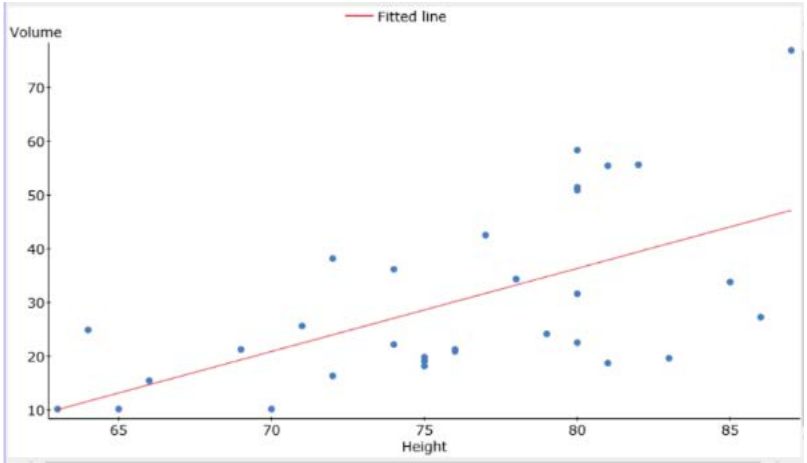
Estimate of error standard deviation: 13.396982

Parameter estimates:

Parameter	Estimate	Std. Err.	Alternative	DF	T-Stat	P-value
Intercept(y)	-87.123614	29.273122	≠ 0	29	-2.9762324	0.0058
Slope (b)	1.5433498	0.38386927	≠ 0	29	4.0205088	0.0004

Analysis of variance table for regression model:

Source	DF	SS	MS	F-stat	P-value
Model	1	2901.1889	2901.1889	16.164491	0.0004
Error	29	5204.895	179.47914		
Total	30	8106.0839			



Calculate, report, and draw conclusions:

3. Answer these questions. *Round all numbers to the nearest hundredth*.

a. Identify whether each variable is an independent or dependent variable.

The dependent variable is the volume, which means it can change, and the independent variable is the height, (which may not change).

b. What is the shape of the scatterplot? Does it look linear? Describe any points that appear to be outliers.

The scatterplot is to the right and looks linear. The linear is the shape of the line and show the strength of the relationship. There is a positive relationship because the variables are moving in the same direction. There is a weak trend in the first scatterplot. On the second scatterplot, there is the line is linear and forms a straight line.

c. Use the slope and intercept that you wrote down in part 1c to write the equation of the regression line in slope-intercept form.

d. Based on that linear equation, what volume would you predict for a tree that is 77 feet tall? If you graphed a point for that tree with the predicted volume, where does that point fall compared with the graph of the line?

e. What is the correlation between x and y? Based on the data only, does a higher height cause trees to have a larger volume? Do you think that tree height is a good predictor of volume?

f. Is the intercept meaningful for this graph? Why or why not?

4. Write three additional observations of the graphs and the statistics you calculated, identifying what you can learn about the two variables and their relationship.