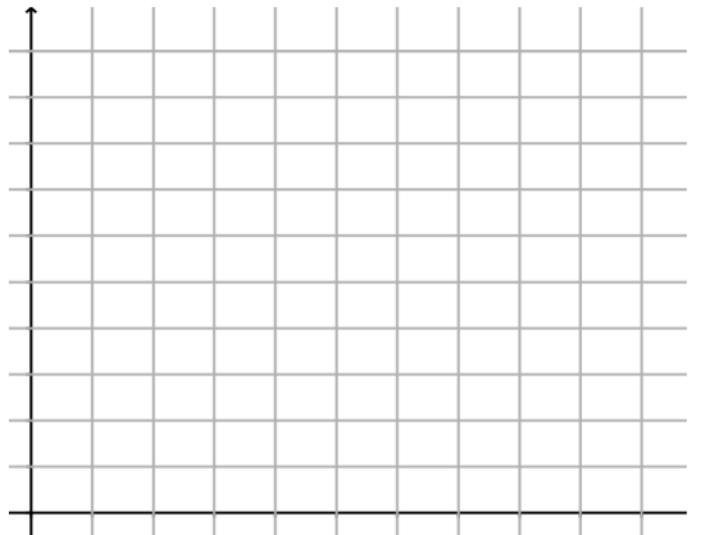


Given a data set and its scatter plot, we will draw the line of best fit, find its symbolic form, and answer questions in context using this form. This process is called *linear regression*.

1. The table shows Tammy’s speed at typing after a given number of weeks practicing. Plot the data points.

Practice time (weeks)	Typing Speed (words per minute)
1	20
2	22
3	30
4	33
5	38
6	40
7	44

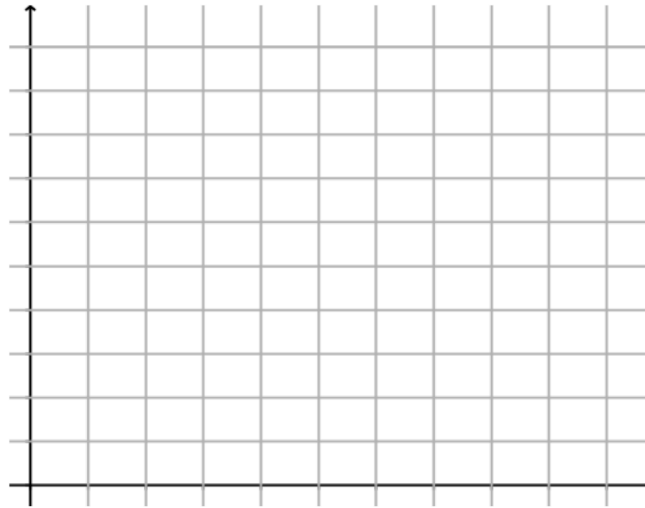


- a. Draw on the graph the line of best fit and provide its symbolic representation.
- b. What does the slope mean in context? What does the  $y$ -intercept mean in context?
- c. Use your line of best fit to predict how many words per minute Tammy will type after 12 weeks of practice.
- d. Use your line of best fit to predict how many weeks of practice it will take for Tammy to type 100 words per minute.



3. The table below shows the hours of TV watched weekly by 9 students and their scores on a math quiz. Plot the data points.

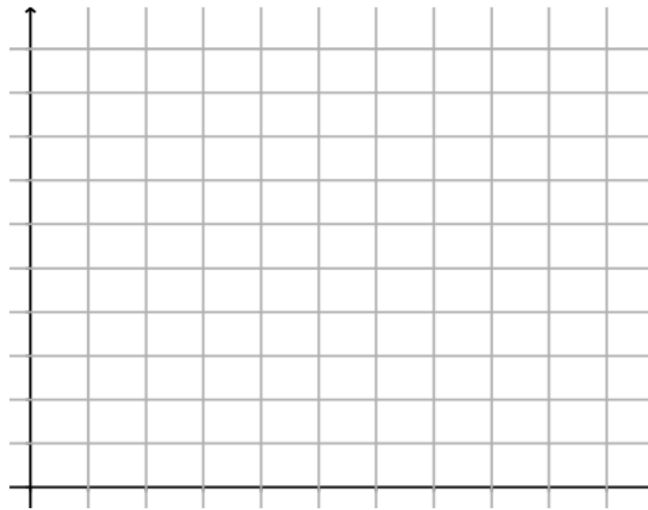
TV (hours)	Math Quiz Score (%)
21	70
8	100
31	44
15	72
21	54
28	40
10	20
18	96
17	64



- a. Draw on the graph the line of best fit and provide its symbolic representation.
- b. What does the slope mean in context? What does the  $y$ -intercept mean in context?
- c. Use your line of best fit to predict the quiz score of a student who watched 20 hours of TV.
- d. Use your line of best fit to predict the number of hours of TV watched if a student scored a 70 on their quiz.

1. The table below shows the length and weight of several adult humpback whales. Plot the data points

Length (ft)	Weight (tons)
40	25
42	29
45	34
46	35
50	43
52	45
55	51



- a. Draw on the graph the line of best fit and provide its symbolic representation.
- b. What does the slope mean in context? What does the y-intercept mean in context?
- c. Use your line of best fit to predict the weight of a 48 foot humpback whale.
- d. Use your line of best fit to predict the length of a humpback whale that weighs 60 long tons.