Worksheet 9.6

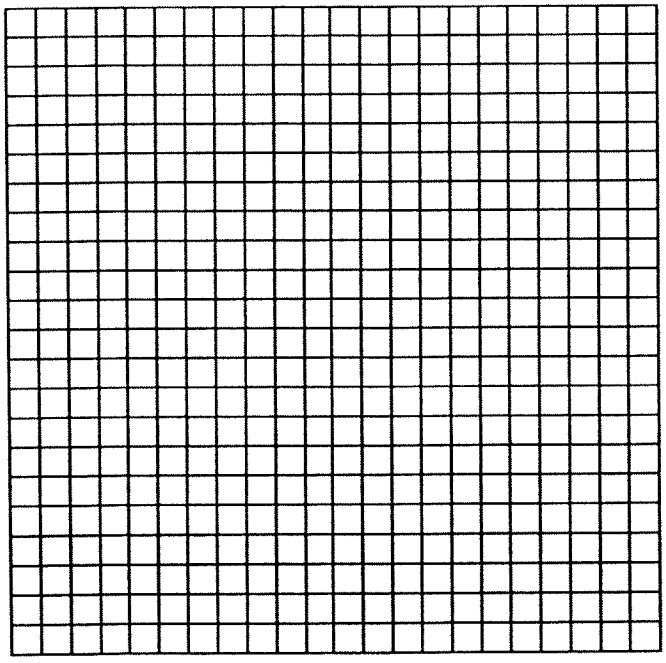
Scatterplots & Line of Best Fit

Guided Practice

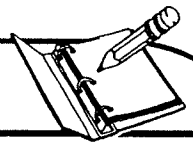
1. Create a scatter plot for the following table:

Amount of study vs. Grade achieved

Study Time (h)	Grade (%)
1	30
5	80
2	55
8	95
6	85
1	40
3	60
7	85



2. Is there a correlation? If so, what is the correlation?

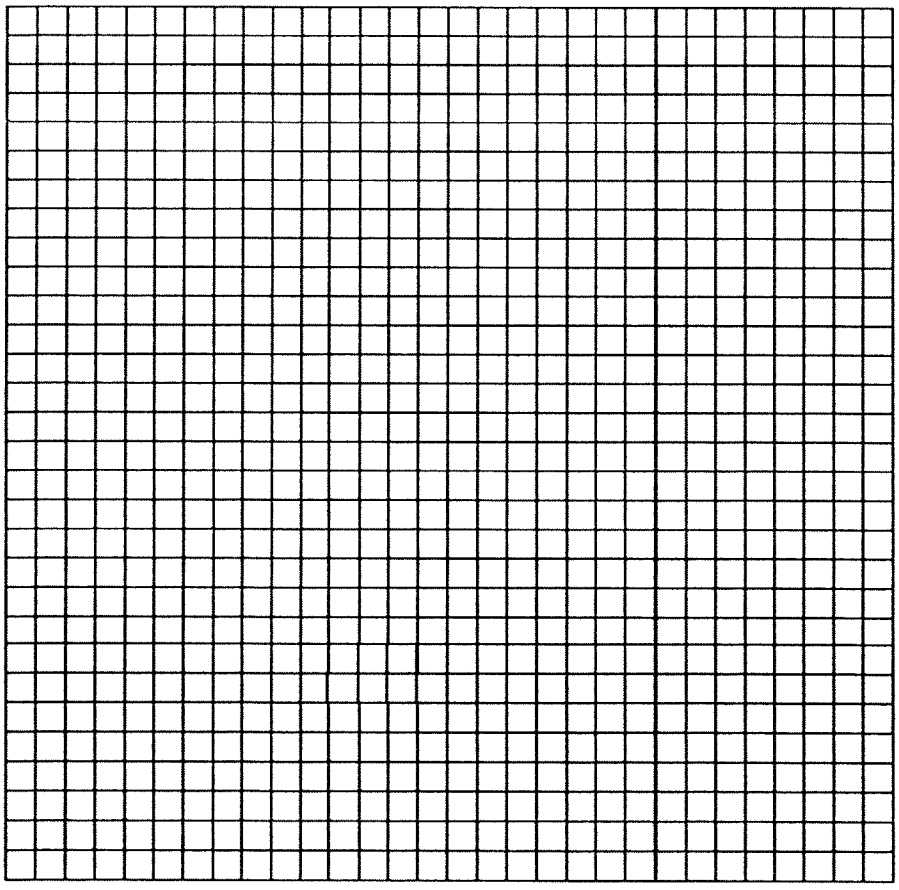


Worksheet 1

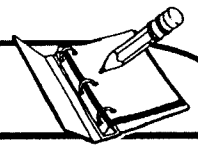
1. Use the following table to create a scatterplot.

Time for a student to ride his bicycle to school

Distance from School (km)	Time to ride by bicycle (mins)
26	62 200
22	43 500
23	45 800
27	52 530
24	52 455
19	29 680
31	35 035
23	47 900
25	58 100



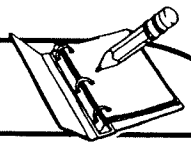
Place the Distance on the x-axis (horizontal) and Time on the y-axis (vertical).



2. Use a ruler to draw a line of best fit.

3. Is there a correlation (relationship) between the distance travelled and the time?

4. Using your line of best fit, predict the time it will take to go to school if the student lives 9 km from the school.

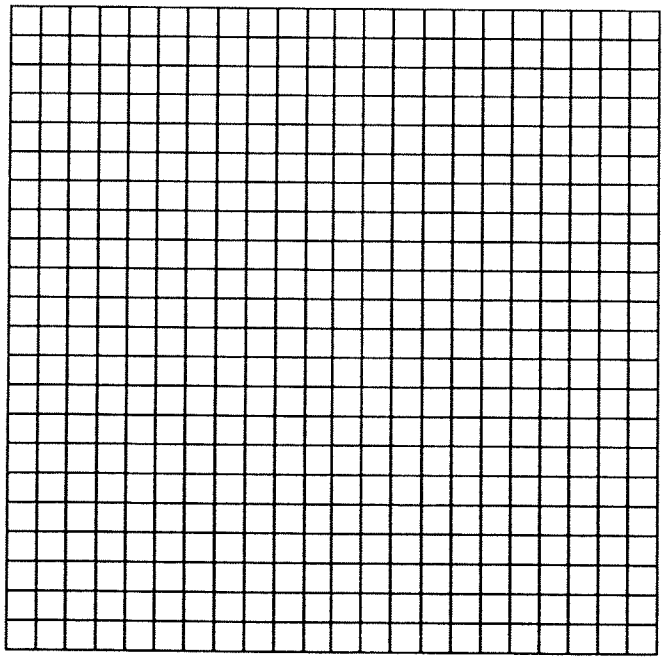


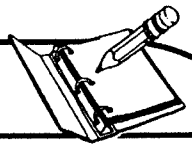
Worksheet 2

1. Use the following table to create a scatterplot.

Effect of the temperature on the number of visitors to Klondike Days

Temperature (°C)	Number of Visitors
26	62 200
22	43 500
23	45 800
27	52 530
24	52 455
19	29 680
31	35 035
23	47 900
25	58 100





2. Is there a correlation?

3. Use a ruler to draw a line of best fit for all or part of the data.

4. Interpolate to predict how many people will visit Klondike Days when the temperature is 21°.

5. Is it a strong enough correlation to prove that one variable is the direct cause of the other?

Best Fit Lines

Frank was curious about the amount of time his friends spend on the phone each night. He conducted a survey which compared the age of his friends with the time each spent on the phone. His are displayed in the following chart:

Age (YEARS)	Time on Phone (MIN.)
14	54
13	32
15	65
14	23
14	41
15	43
12	26
13	25
14	45
15	56
15	60
14	52
13	33
13	42
14	39

1) Create a scatter plot to represent Frank's data.

2) Draw the best fit line for the data.

3) Draw a conclusion about the relationship between the time spend on the phone and age in years. Give two reasons why this relationship may exist.