

Name: _____

Date _____

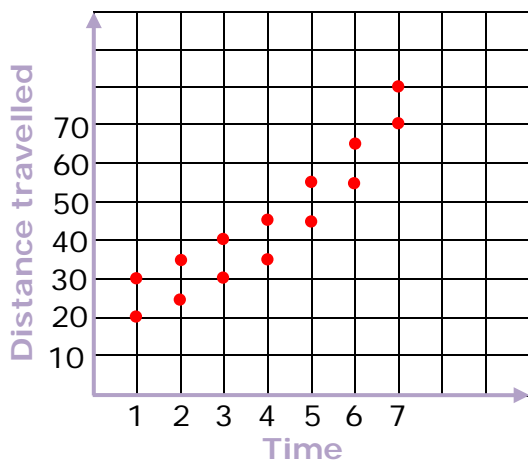
Topic : Scatter Plots and Line of Best Fit - Worksheet 1

Do the following:

1. Variable x is the number of students trained on new projects, and variable y is the number of calls to the other institute. You suspect that more training reduces the number of calls. Does this follow positive correlation or negative correlation?
2. The table lists the population of a town from the year 1970 to 2003. Sketch a scatter plot of the data.

Year	1970	1980	1990	2000	2001	2002	2003
Population (in thousands)	50	35	45	30	60	65	70

3. Draw the line of best fit.
4. What type of correlation does this graph show?
5. Calculate the slope of the line through points (25, 2001) and (60, 2003).
6. Write the equation of the line.
7. Predict the population based in year 2003.



Use graph shown for question 8-10

8. What type of correlation does this graph show?
9. Predict the distance travelled at time = 4
10. Predict the distance travelled at time = 2



Name: _____

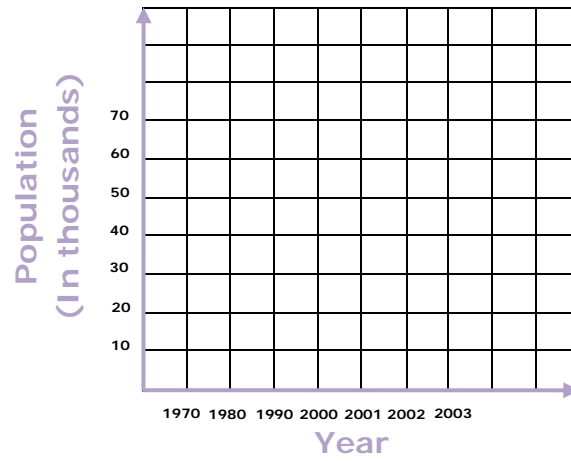
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Topic : Scatter Plots and Line of Best Fit - Worksheet 1 **ANSWERS**

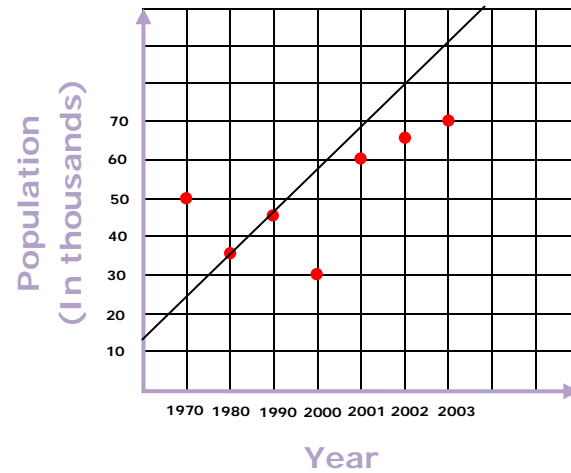
1.

Negative correlation

2.



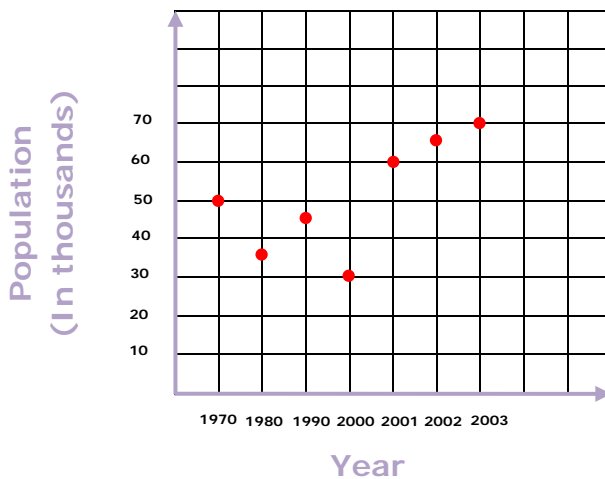
3.



Name: _____

Date _____

4.

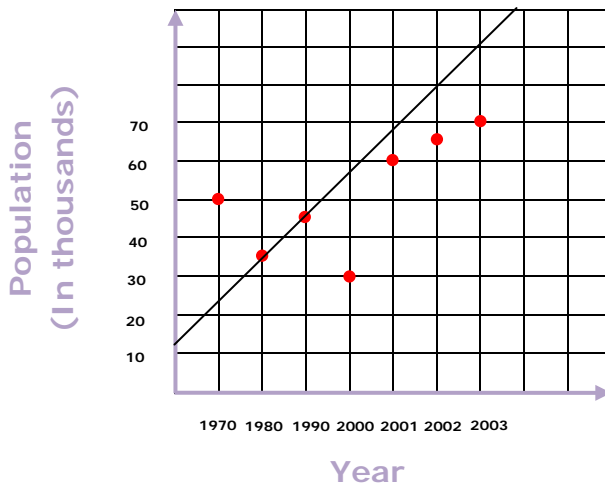


Answer : No Correlation

5.

$$M = \frac{y_2 - y_1}{x_2 - x_1}$$
$$M = \frac{2003 - 2001}{60 - 25}$$
$$M = \frac{2}{35}$$

6.



$$Y - y_1 = \left(\frac{y_2 - y_1}{x_2 - x_1} \right) (x - x_1)$$
$$Y - 1980 = \left(\frac{1990 - 1980}{45 - 35} \right) (x - 35)$$

7.

70,000



Name: _____

Date _____

8.

Positive correlation

9.

$$35 + 45 / 2 = 40$$

10.

$$25 + 35 / 2 = 30$$



Name: _____

Date _____

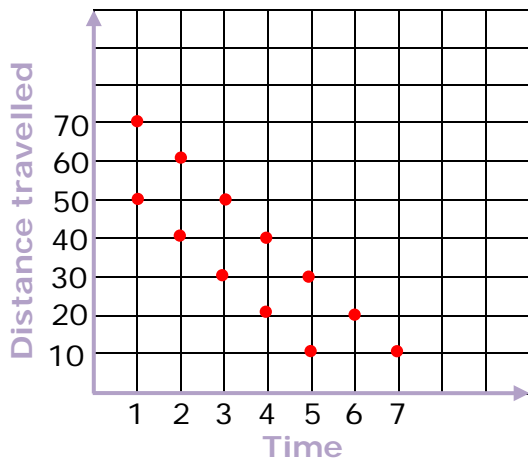
Topic : Scatter Plots and Line of Best Fit - Worksheet 2

Do the following:

1. Variable x is the number of students trained on new projects, and variable y is the number of calls to the other institute. You suspect that more training increases the number of calls. Does this follow positive correlation or negative correlation?
2. The table lists the population of a town from the year 1970 to 2003. Sketch a scatter plot of the data.

Year	1970	1980	1990	2000	2001	2002	2003
Population (in thousands)	65	55	45	35	25	15	5

3. Draw the line of best fit.
4. What type of correlation does this graph show?
5. Calculate the slope of the line through points (45, 1990) and (65, 2002).
6. Write the equation of the line.
7. Predict the population based in year 2003.



Use graph shown for question 8-10

8. What type of correlation does this graph show?
9. Predict the distance travelled at time = 2
10. Predict the distance travelled at time = 3



Name: _____

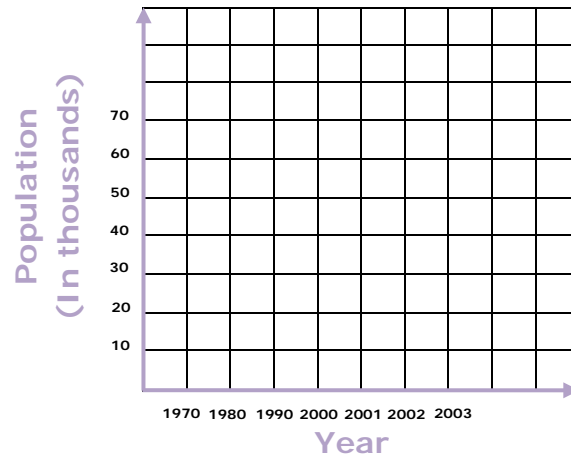
Date _____

Topic : Scatter Plots and Line of Best Fit - Worksheet 2 **ANSWERS**

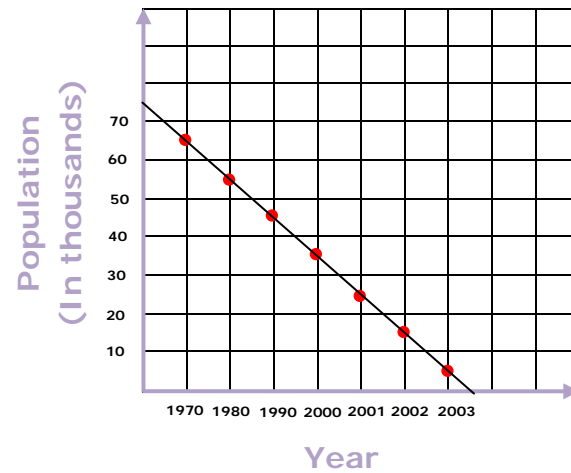
1.

Positive correlation

2.



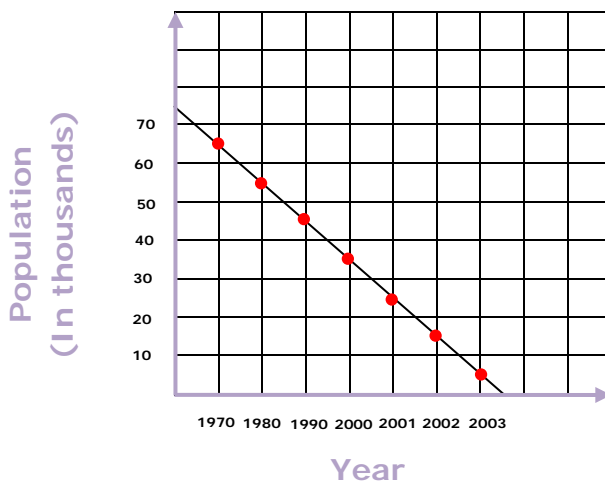
3.



Name: _____

Date _____

4.

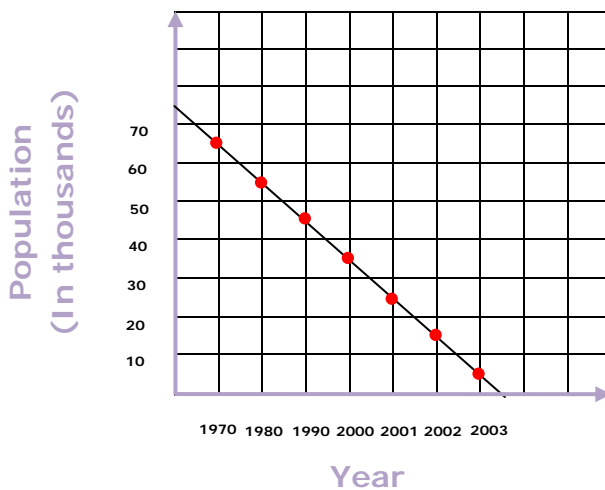


Answer : Negative Correlation

5.

$$M = \frac{y_2 - y_1}{x_2 - x_1}$$
$$M = \frac{2002 - 1990}{65 - 45}$$
$$M = \frac{3}{5}$$

6.



$$Y - y_1 = \left(\frac{y_2 - y_1}{x_2 - x_1} \right) (x - x_1)$$
$$Y - 2003 = \left(\frac{2002 - 2003}{25 - 5} \right) (x - 5)$$

7.

5,000



Name: _____

Date _____

8.

Negative correlation

9.

$$40 + 60 / 2 = 50$$

10.

$$30 + 50 / 2 = 40$$



Name: _____

Date _____

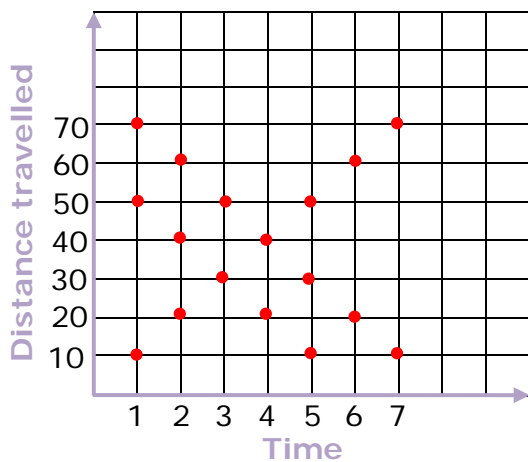
Topic : Scatter Plots and Line of Best Fit - Worksheet 3

Do the following:

1. Variable x is the number of students trained on new projects, and variable y is the number of calls to the other institute. You suspect that some training increases the number of calls and some training decreases the number of calls. Does this follow positive correlation or negative correlation?
2. The table lists the population of a town from the year 1970 to 2003. Sketch a scatter plot of the data.

Year	1970	1980	1990	2000	2001	2002	2003
Population (in thousands)	10	20	30	40	50	60	70

3. Draw the line of best fit.
4. What type of correlation does this graph show?
5. Calculate the slope of the line through points (10, 1970) and (20, 1980).
6. Write the equation of the line.
7. Predict the population based in year 2000.



Use graph shown for question 8-10

8. What type of correlation does this graph show?
9. Predict the distance travelled at time = 7
10. Predict the distance travelled at time = 6



Name: _____

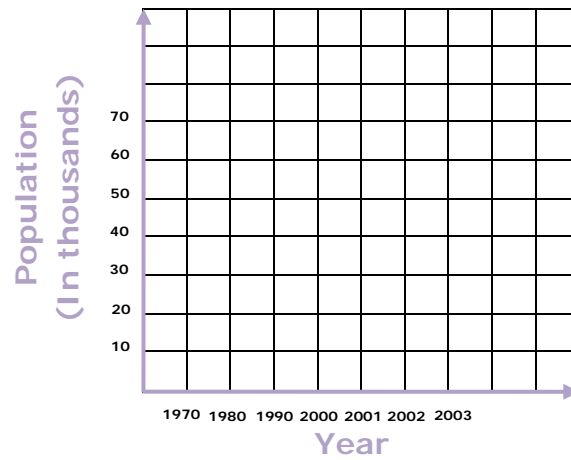
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Topic : Scatter Plots and Line of Best Fit - Worksheet 3 **ANSWERS**

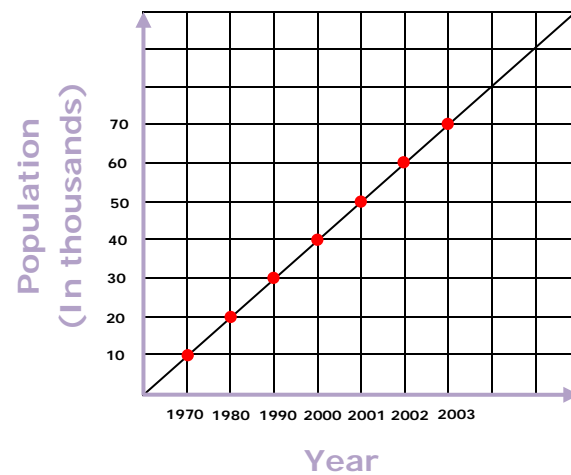
1.

No correlation

2.



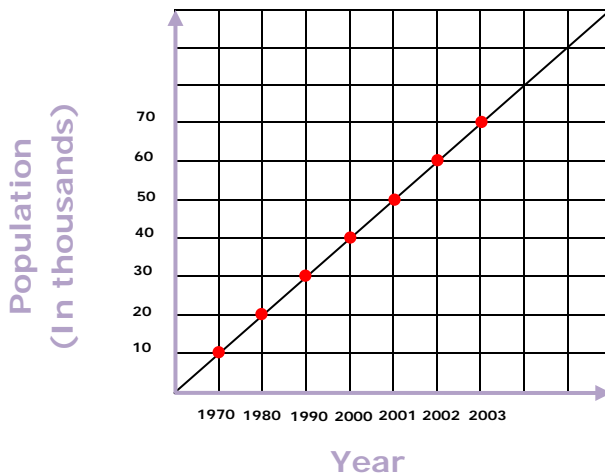
3.



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4.

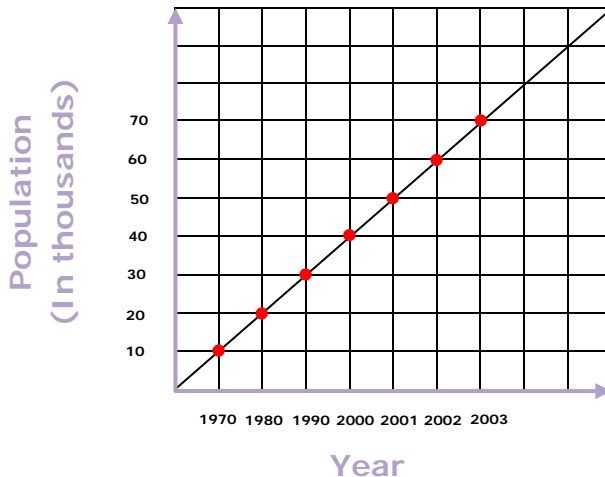


Answer : Positive Correlation

5.

$$M = \frac{y_2 - y_1}{x_2 - x_1}$$
$$M = \frac{1980 - 1970}{20 - 10}$$
$$M = 1$$

6.



$$Y - y_1 = \left(\frac{y_2 - y_1}{x_2 - x_1} \right) (x - x_1)$$
$$Y - 1970 = \left(\frac{1980 - 1970}{20 - 10} \right) (x - 10)$$

7.

40,000



Name: _____

Date _____

8.

No correlation

9.

$$10 + 70 / 2 = 40$$

10.

$$20 + 60 / 2 = 40$$



Name: _____

Date _____

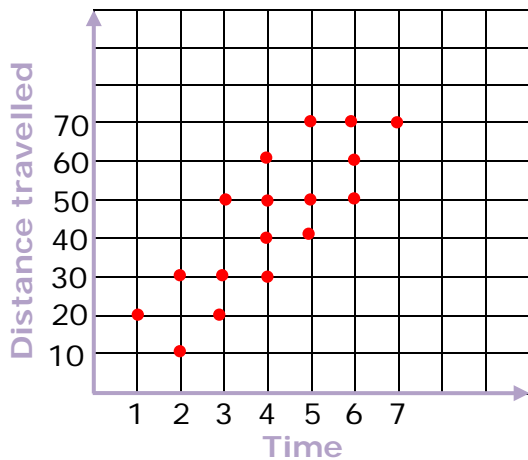
Topic : Scatter Plots and Line of Best Fit - Worksheet 5

Do the following:

1. Variable x is the number of students trained on new projects, and variable y is the number of calls to the other institute. You suspect that more training reduces the number of calls. Does this follow positive correlation or negative correlation?
2. The table lists the population of a town from the year 1970 to 2003. Sketch a scatter plot of the data.

Year	1970	1980	1990	2000	2001	2002	2003
Population (in thousands)	10	30	20	60	55	65	70

3. Draw the line of best fit.
4. What type of correlation does this graph show?
5. Calculate the slope of the line through points (30, 1980) and (75, 2002).
6. Write the equation of the line.
7. Predict the population based in year 1980.



Use graph shown for question 8-10

8. What type of correlation does this graph show?
9. Predict the distance travelled at time = 6
10. Predict the distance travelled at time = 2



Name: _____

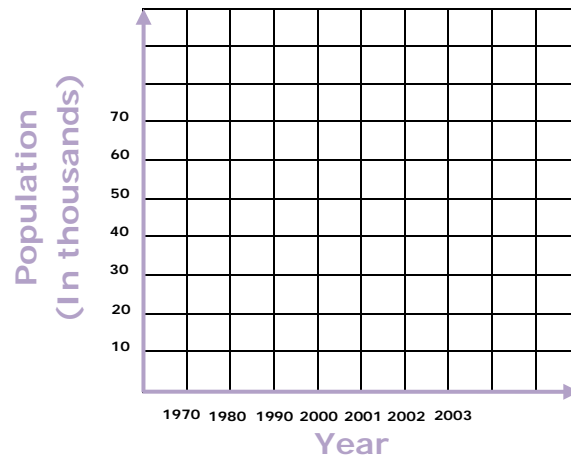
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Topic : Scatter Plots and Line of Best Fit - Worksheet 5 **ANSWERS**

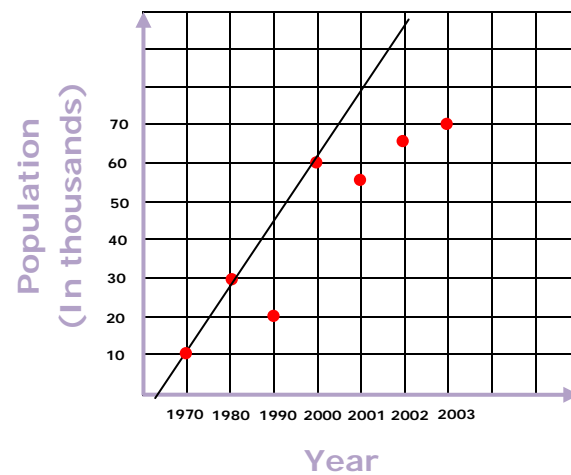
1.

Negative correlation

2.



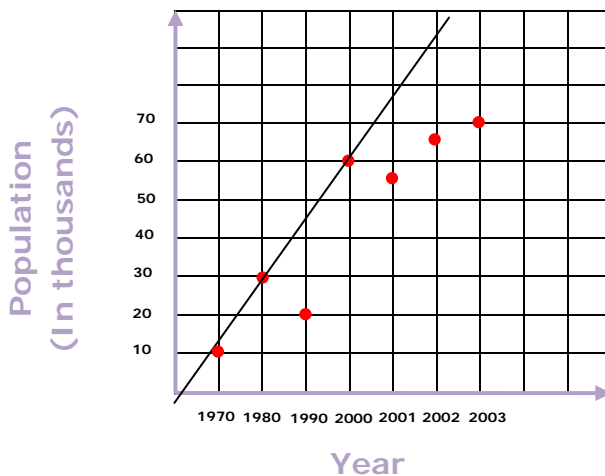
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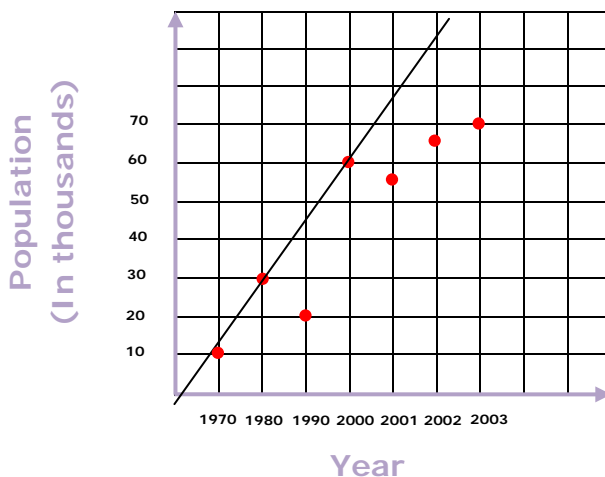


Answer : Positive Correlation

5.

$$M = \frac{y_2 - y_1}{x_2 - x_1}$$
$$M = \frac{2002 - 1980}{75 - 30}$$
$$M = \frac{22}{45}$$

6.



$$Y - y_1 = \left(\frac{y_2 - y_1}{x_2 - x_1} \right) (x - x_1)$$
$$Y - 1980 = \left(\frac{2000 - 1980}{60 - 30} \right) (x - 30)$$

7.

30,000



Name: _____

Date _____

8.

positive correlation

9.

$$50 + 60 + 70 / 3 = 60$$

10.

$$10 + 30 / 2 = 20$$

