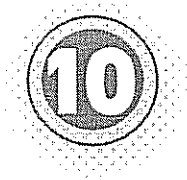
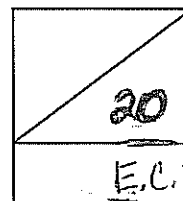


CHAPTER TEST A



Statistics

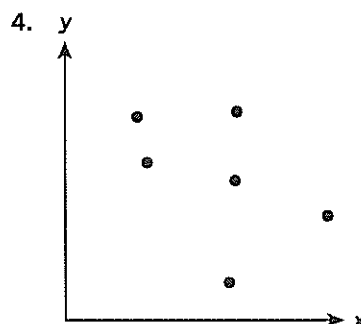
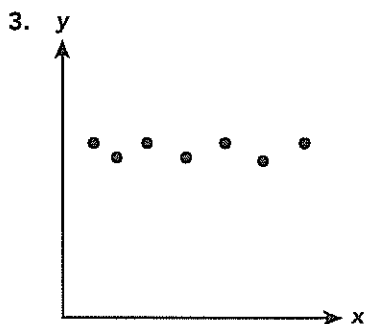


Concepts and Skills (10 × 1 point = 10 points)

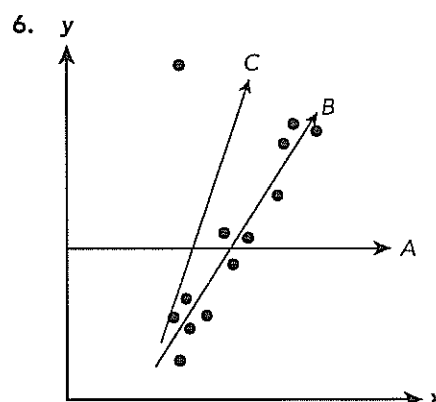
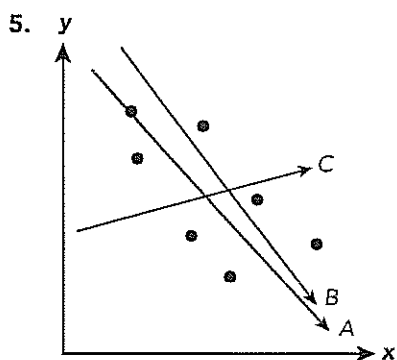
Tell whether the statement is true or false. If false, state the reason.

1. All strong associations of bivariate data sets are linear.
2. Two-way tables can be used to present data derived from categorical data.

Describe the association between the bivariate data shown in each scatter plot.



State the line that represents the line of best fit for each scatter plot.



Name: _____

Date: _____

Identify whether the given data is categorical or quantitative.

7. 10 mins, 20 mins, 40 mins

8. Slow, quite fast, faster, fastest

Fill in the missing information in each two-way table.

9.

Variable A

		Variable A		Total
		A1	A2	
Variable B	B1	3		6
	B2		5	
	Total	7	8	15

10.

Social Media

		Social Media		Total
		Facebook	Twitter	
Gender	Female	0.5		
	Male		0.7	
	Total	1	1	

Name: _____

Date: _____

11. A study was conducted to compare the costs of advertising and amount of sales from 5 different airports with similar passenger volume in 2010 and in year 2012. The table shows the cost of advertising, x , and the corresponding amount of sales, y , for years 2010 and 2012.

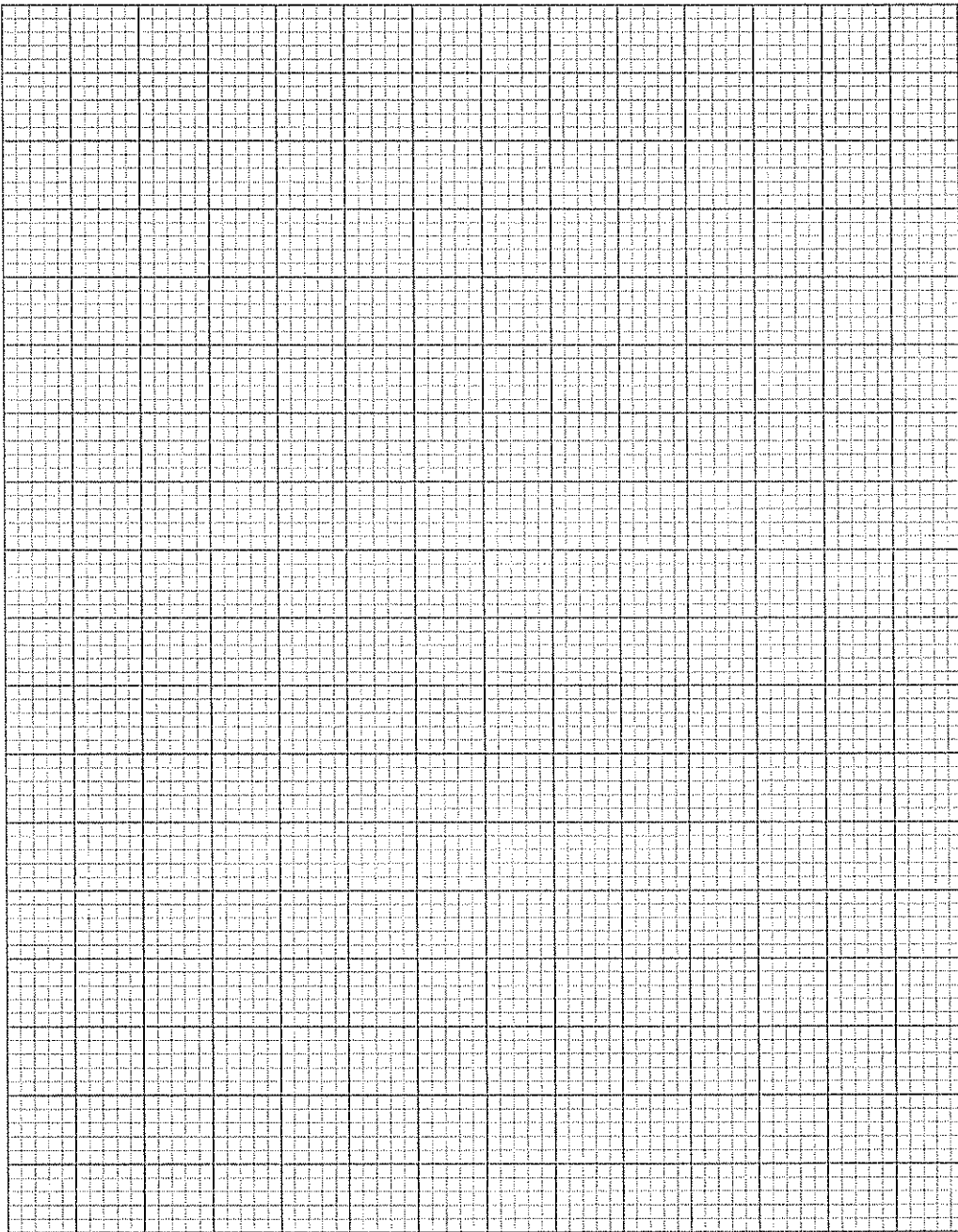
Cost of Advertising in 2010 (\$ million)	5	20	25	35	40
Amount of Sales in 2010 (\$ million)	60	75	85	90	97

Cost of Advertising in 2012 (\$ million)	10	15	25	30	44
Amount of Sales in 2012 (\$ million)	68	68	75	85	95

- a) Use the graph paper on the next page to construct the scatter plot for the above bivariate data. Use 1 centimeter on the horizontal axis to represent \$5 million advertising costs and 1 centimeter on the vertical axis to represent \$10 million sales for the y interval from 60 to 100 million.
- b) Describe the association between the cost of advertising and the amount of sales.
- c) Use the graph in a), draw a line of best fit.
- d) Write an equation for the line of best fit.
- e) Using the equation in d), predict the cost of advertising when the amount of sales amount is \$90 million. Discuss the accuracy of prediction.

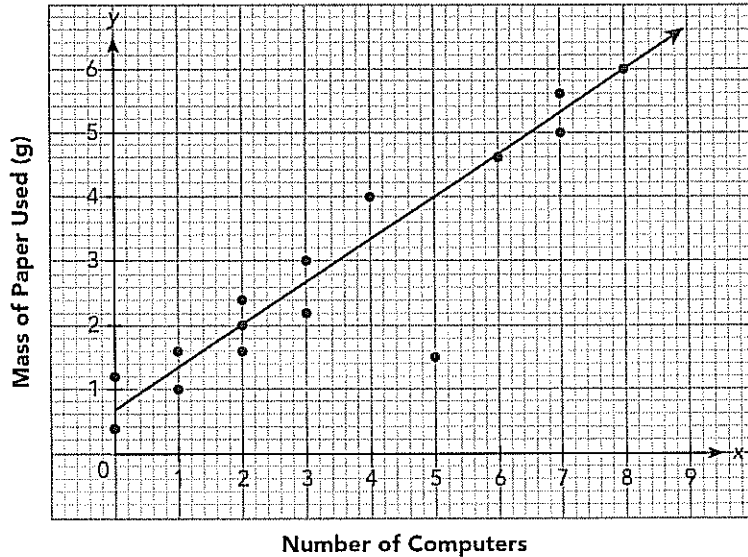
Name: _____

Date: _____



Extra Credit (a-d)

A survey was conducted to find out if there is relationship between the number of working office computers and the total mass of printer paper used per day. The scatter plot for the bivariable data and the line of best fit is shown below.



- Describe the association between the number of working office computers and the total mass of printer paper used per day.
- Identify the outlier. Explain.
- Write an equation for the line of best fit.
- Using the equation in **c)**, predict the mass of printer paper used when there are 5 working computers in an office.