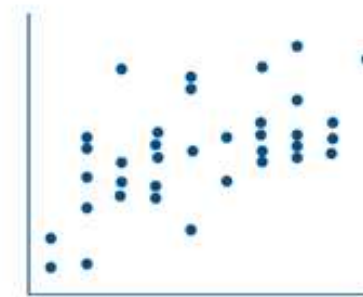# Week 6
Project - Analysis of Data

	SEND…

Section A - Multiple choice questions
(No marks for questions without an explanation)

1. For the scatterplot shown, the association between the variables is best described as:
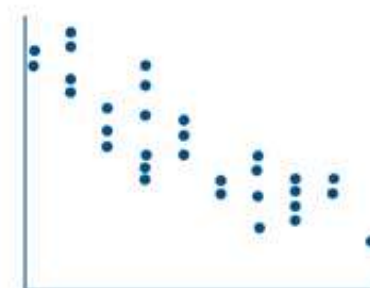
A. Weak linear negative
B. Strong linear negative
C. Weak linear positive
D. Strong linear positive
E. No association

Explain your reasoning:

2. For the scatterplot shown, the association between the variables is best described as:

A. Weak linear negative
B. Strong linear negative
C. Weak linear positive
D. Strong linear positive
E. No association

Explain your reasoning:

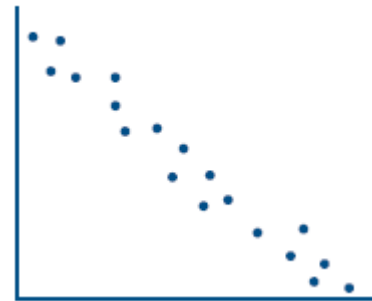3. For the scatterplot shown, the association between the variables is best described as:

   A. Weak linear negative
   B. Strong linear negative
   C. Weak linear positive
   D. Strong linear positive
   E. No association

Explain your reasoning:

4. For the scatterplot shown, Pearsons correlation coefficient, r, is closest to:

   A. - 0.90

   B. - 0.64

   C. - 0.23

   D. 0.64

   E. 0.90

5. For the scatterplot shown. Pearson's correlation coefficient, r, is closest to:

   A. 0.21

   B. 0.41

   C. 0.86

   D. 0.99

   E. 0.63

Section B - How does an outlier affect the least squares line?

You are required to prepare a report for the Hockey Administration Committee outlining the effects of temperature on drinks sold. Your report is to be presented to the Committee as a PowerPoint presentation or you may present the report in paper format.

Useful Internet sites	
http://www.teachers.ash.org.au/jfuller/powerpoint/menu.htm http://www.kidzonline.org/TechTraining/video.asp?UnitQry=PowerPoint	*Learn how to create a PowerPoint* *Training video on how to create a PowerPoint*

The table below shows the temperature and how many drinks were sold at 15 hockey matches.

Temp (°C)	6	24	30	8	27	30	36	12	22	15	39	12	9	18	33
Drinks sold	500	750	200	550	700	750	780	600	700	650	850	550	600	650	800

Begin your report with your own title and a brief introduction (e.g. one sentence).

Include the **sub headings** indicated in **bold** below and your answers to the points given under each.

Scatter Plot

1. Before you do a scatter plot you need to decide which variable will be *x* and which will be *y*. State your decision and give reasons for your choices.

   Construct a scatter plot. Describe the pattern.

Explaining the meaning of Pearson's *r* and what the gradient tells us

2. (a) Input the data into your CAS calculator. Record Pearson's *r* and the least squares regression equation. (If you are not using a CAS calculator you'll need to use the formulae for Pearson's r, given in last week's notes.)

   (b) (i) What does Pearson's *r* tell you?

   (ii) What does the gradient mean?

   (c) Test to see whether the equation is reasonable by comparing a point on your graph with the calculated value.

What is an outlier and what is its significance?

3.   State what an outlier is. Find the outlier in the data. Discard the outlier then find the new value of Pearson's *r* and the least squares equation.

How have Pearson's *r* and the least squares equation changed with the outlier removed?

Conclusion

7.   What effect does temperature have on the amount of drinks sold and what impact did outliers have on the results?

Resources

List the resources that you have used (websites, books, etc).

Note: When listing websites, include the date that you accessed the site.
For example,   *http://www.microsoft.com/downloads/details.aspx? Accessed 27/4/06.*

ASSESSMENT

Your project will be assessed on:

- completion
- accuracy and relevance of content
- Analysis and Interpretation of the results.
- Use of technology
- design
- resources used

Guidelines on aspects we are looking for are given on the next page.

DECV

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74106

SCHOOL NO. ⬚⬚⬚⬚⬚·⬚⬚

STUDENT NUMBER _____

SCHOOL NAME _____

STUDENT NAME _____

SUBJECT	VCE General Mathematics
	(Standard) Unit 2

YEAR/LEVEL   11   **WEEK**   6

TEACHER   _____

PLEASE ATTACH WORK TO BE SENT.

NOTE: Please write your number on each page of your work that is attached to this page.

SEND	Please check that you have attached:

❑   Project

Have you left out any of the above items? Please let us know the reason for this so we can help you.

_____

_____

_____

_____

Use the space on the back of this sheet if you have any questions you would like to ask, or problems with your work that you would like to share with your teacher.

YOUR QUESTIONS AND COMMENTS

DISTANCE EDUCATION CENTRE TEACHER'S COMMENTS

DISTANCE EDUCATION CENTRE TEACHER