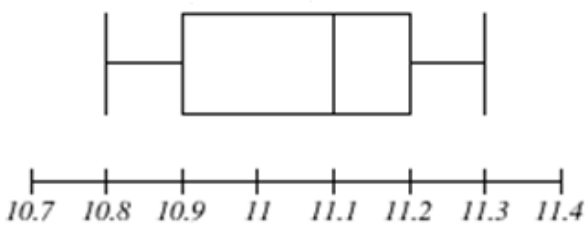
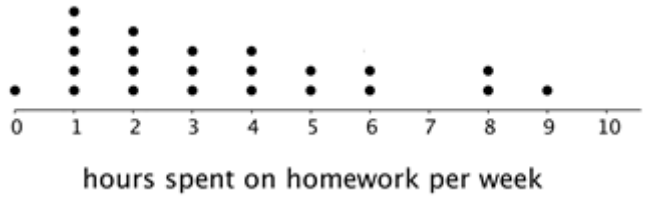
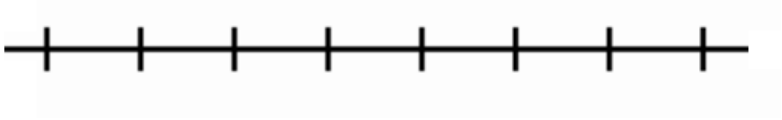
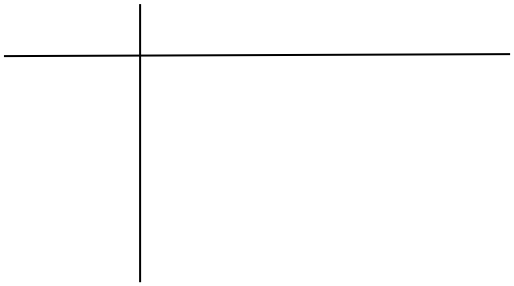
	Data Analysis	Marks
1.	 Time (seconds) The above graph shows the times for a 100m sprint race at the National titles. a) Range = _____ b) Median = _____ c) Upper Quartile (Q3) = _____ d) Lower Quartile (Q1) = _____ e) Interquartile Range = _____	**(5)**
2.	A back-to-back stem and leaf plot for pulse rates (in beats per minute) of PE students before and after exercise are shown below. **pulse rate** **before** **after** 9 8 8 8 | 6 8 6 6 4 1 1 0 | 7 8 8 6 2 | 8 | 6 7 8 8 6 0 | 9 | 0 2 2 4 5 8 9 9 4 | 10 | 0 4 4 0 | 11 | 8 | 12 | 4 4 | 13 | | 14 | 6 a) What is the median pulse rate before exercise? _____ b) What is the median pulse rate after exercise? _____ c) What is the outlier? _____ d) Which of the measures of central tendency (*mean*, *median* or *mode*) is **most** affected by this outlier? _____	**(4)**

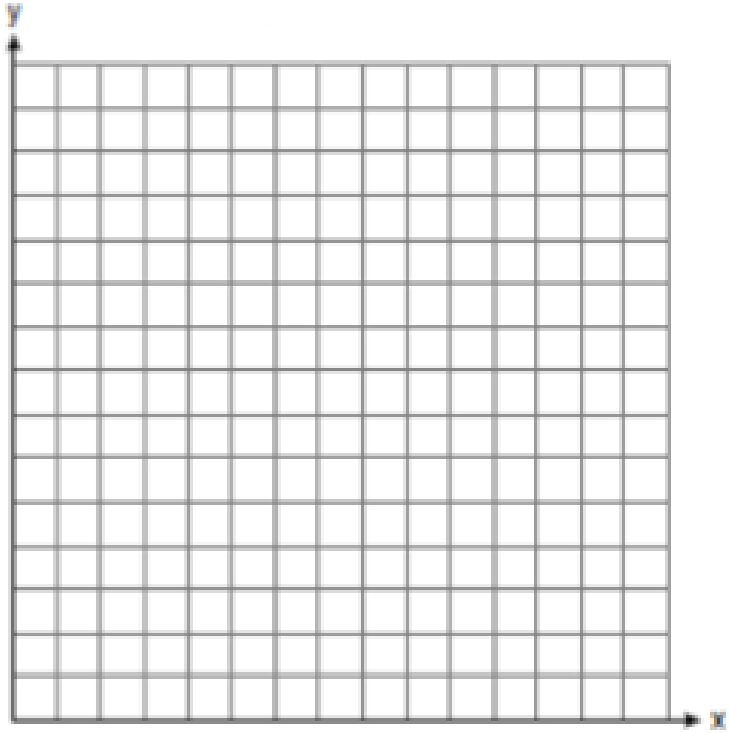
3.	The graph below shows a graph of hours spent by Year 7 students on homework each week.  hours spent on homework per week a) What type of graph is this? _____ b) Is this graph *symmetric*, *skewed* or *bimodal*? _____ (c) Find the mode of the distribution? _____	**(3)**
***4.**	The oldest person in an under 21's soccer team is 20 and the youngest person is 15. The median age of the soccer team is 17, the lower quartile is 16, and the upper quartile is 18. a) Represent this information with a box-and-whisker plot on the axis below.  b) What percentage of soccer players are aged between i) 16 and 18? _____ ii) 16 and 20? _____	**(4)**

5.	The following scores are marks in a test out of 50 obtained by a group of 11 students. 22 25 30 31 36 37 42 46 31 27 16 a) Display the data in an **ordered** stem and leaf plot.  b) Find the mean. _____ _____ c) Find the median. _____ d) Find the interquartile range for the set of data _____ _____ _____ e) Write the 5-number summary for this data. _____, _____, _____, _____, _____	**(5)**

6.	The table below shows the number of tickets sold each day for the Year 10 formal over a 10-day period.	**(4)**

Day(x)	1	2	5	7	10
Number of tickets sold(y)	30	35	55	60	70

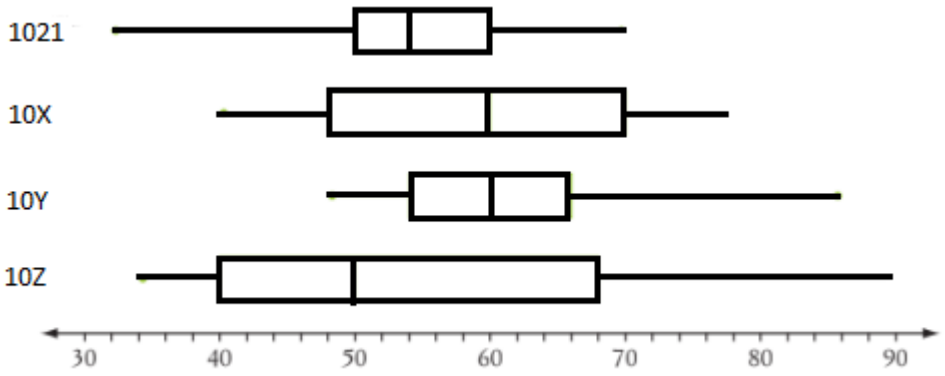
a) Plot these data points on the coordinate grid below.
(Use a consistent and appropriate scale)



b) Describe the *strength* and *direction* of the relationship between the two variables.

_____ _____

***7.**	The results of a Maths test given to four Year 10 classes are shown below;	**(6)**



a) For which of the classes are the test results;

i. Negatively skewed? _____

ii. Symmetrical? _____

b) Which class has the lowest overall results? Give a reason for your answer.

_____

_____

c) 10X and 10Y have the same range. Which class has a larger spread of test results? Give a reason for your answer.

_____

_____

	Consumer Arithmetic	
1	a) Calculate the simple interest on an investment of $5000 invested for 3 years at a rate of 5% pa. _____ _____ _____ b) Calculate the Compound Interest earned on the investment in part a). Use $A = P(1 + r)^n$ _____ _____ _____ _____ _____ _____ c) How much more interest does compound interest earn over the 3 years of the loan? _____ _____	**(4)**
***2**	After 5 years an investment has increased from $3500 to $8000. Calculate the simple interest rate per annum at which the initial investment amount was invested, correct to one decimal place _____ _____ _____ _____ _____ _____	**(2)**
3	Sam bought a car in May 2013 for $19 990. If the car depreciates at 18% per year since it was purchased, using $A = P(1 - r)^n$ calculate; How much is the car worth now in May 2018 (Answer to nearest dollar)? _____ _____ _____	**(2)**

	_____ _____	
4	a) Calculate the simple interest on $1200 over 3 years at 6% pa. _____ _____ b) Calculate the simple interest on $2750 over 7 months at 8% pa. _____ _____ c) $16 240 is invested for 5 years at 0.4% per month. Find the total of the investment after this time. _____ _____ _____ _____ d) Find the amount of a 15% deposit on a TV with a sale price of $8790. _____ _____ e) Ken makes repayments of $62 per month for his computer. How much does he repay in 4 years? _____ _____	**(6)**

5	Joe purchased a new fridge and dishwasher package valued at $3200. He pays a 15% deposit and repays the balance over 48 months at a flate rate of 7.5% p.a. interest. Calculate; a) the deposit and the balance owing. _____ _____ _____ _____ b) the interest owing on the balance. _____ _____ c) the total to be repaid including the interest. _____ _____ d) the amount of each monthly installment. _____ _____ _____ e) the total amount paid for the entire package. _____ _____ _____	**(6)**

6	Chris purchases a new computer for $900 on a payment plan. He chooses a deferred payment plan where he puts down a deposit of 10% and then pays $110 per month for 9 months. Calculate; a) the amount of the deposit. _____ _____ b) the total of the monthly repayments. _____ _____ c) how much more has Chris paid for the computer by buying it on a payment plan. _____ _____ _____ _____	**(4)**
7	From the list of words given choose the one that best fit the definitions below; [box and whisker plot, scatter plot, interquartile range, five point summary, quartile, dot plot, stem and leaf plot] a) A graph that shows the quartiles of a set of data. _____ b) A graph that is made of dots on a number plane that represent bivariate data. _____ c) A measure of the difference between the upper and lower quartiles. _____	**(3)**

End of Examination

Carlingford High School

Mathematics
Year 10 5.2 Term 1 Test 2018

Student Name: _____

Circle your Teacher below.

Mrs. Gamble/Hooper Mr Cheng Mrs Pennington

Ms Strilakos

Time allowed: ***50 minutes***

- Complete the examination in blue or black pen.
- Show all necessary working.
- Attempt all questions.
- Extension questions are marked with an asterisk *.

	Data Analysis	Consumer Arithmetic	Total	
Questions	**/29**	**/25**		
Extension	**/4**	**/2**		
Total	**/33**	**/27**	**/60**	**%**