Student Name _____

Eastern Goldfields College

Year 11 Mathematics Essential 2019

Task 6: Test 4

Working time: 20 minutes **Marks: 17**

No calculator or notes for this section.

Question 1 (5 Marks – ½ each)

Complete the table by choosing the best **Data Display** and **Data Type** from the options provided. You can choose each option more than once.

Data Display

- Column graph
- Dot Plot
- Back to back stem and leaf diagram
- Histogram
- Box & whisker Plot

Data Type

- Numerical
- Categorical

	Data Display	Data Type
The heights (measured to the nearest cm) of 20 boys and 20 girls to compare them.	Box + Whisker Plot	Numerical
The eye colour of all Year 11 students.	Column Graph Dot Plot	Categorical
The foot length of the members of your class	Column Graph Dot Plot	Numerical
House prices in various suburbs	Stem + Leaf Histogram	Numerical
The birth month of all Essentials students.	Column Graph Dot Plot	Categorical

Question 2 (7 Marks – 3, 1, 1, 2)

Below are the results of a survey, gathered by a Kalgoorlie phone shop. They were looking at the phone ownership of two major phone brands.

Mobile Phone Owners

Type of Phone	Male	Female	Total
iPhone	36	50	86
Samsung	22	45	67
Total	58	95	153

a) Complete the missing entries in the table above.

b) Which brand was the most common?

I phone

c) How many males own a Samsung phone?

22

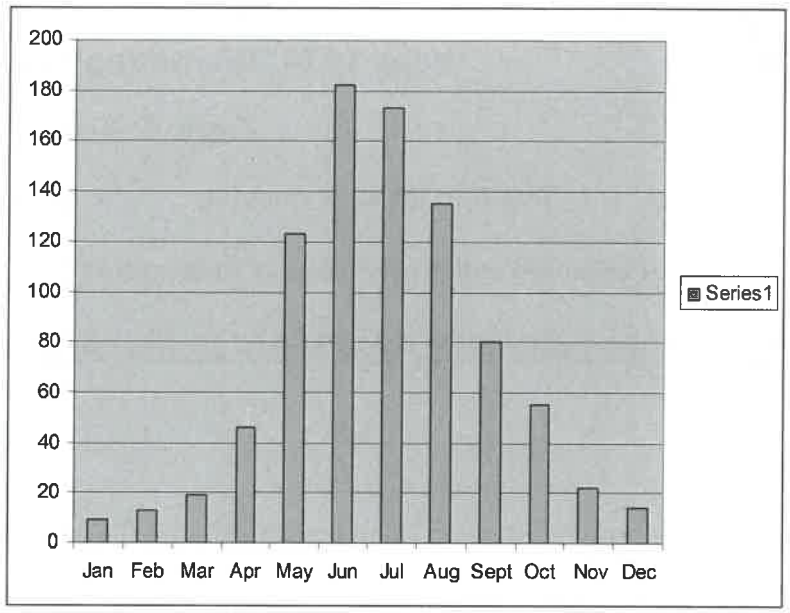
d) Would a line graph be suitable to display this data? Explain why or why not.

No, because the data is categorical and it does not change over time, also it is not continuous data.

4

Question 3 (5 Marks – 1, 1, 1, 2)

The column graph below shows the **average monthly rainfall** in Perth, in mm.



a) List two (2) key features that are missing from this graph? (1/2 mark each – Maximum 1 mark)

Title, Labelled axes

b) Which month had the lowest average monthly rainfall?

January

c) What was the average monthly rainfall for April?

Btw 45 + 48

d) Estimate the total rainfall for June, July and August?

183
175
135
493

Btw 475 + 500 mm

/5

Student Name _____

Eastern Goldfields College

Year 11 Mathematics Essential 2019

Task 6: Test 4

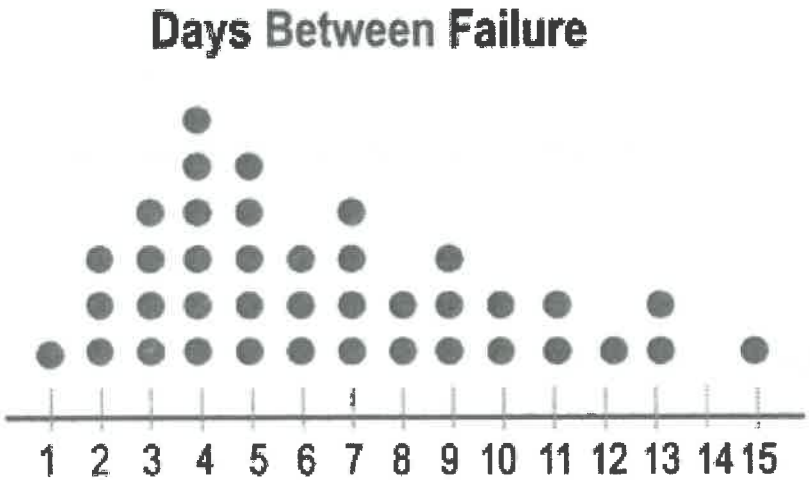
Working time: 30 minutes **Marks: 27**

Calculator assumed and one A4 page of notes permitted.

Show all working wherever necessary to maximise marks.

Question 4 (3 Marks – 1, 2)

The following dot plot shows the days between failure of the Maths Department photocopier.



a) What is the most common amount of days before the photocopier fails?

4

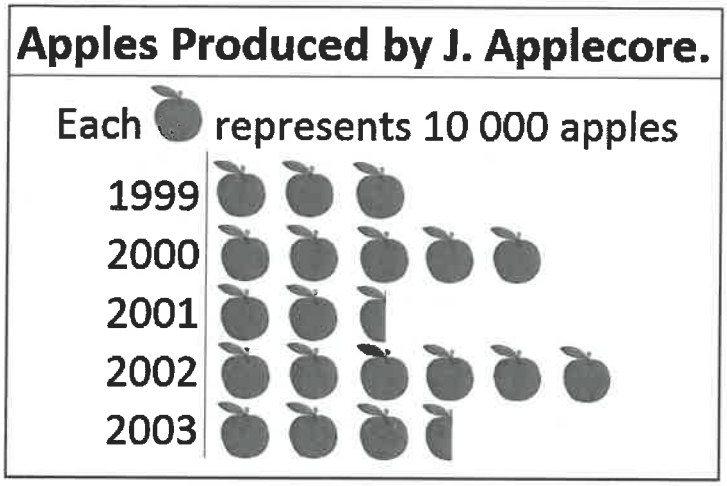
b) The next time the photocopier fails, do you predict it will occur in more or less than 7 days' time? Explain why.

Less, because the bulk of failures occur within 7 days.

/3

Question 5 (9 marks – 1, 1, 1, 2, 2, 2)

John Applecore began his apple orchard in 1996. The first apples were picked in 1999. The graph below shows the harvest for 5 years.



a) What kind of graph is this?

Pictograph

b) In which year was the harvest greatest?

2002

c) What was the harvest in 2003?

35 000

d) Which year did the harvest increase the most? Justify your answer.

2002, it increased by 35 000, the only other year that it increased was 2000 and only by 20 000.

e) What percentage of the apples picked between 1996 and 2000 were picked in 1999?

$\frac{30\,000}{80\,000} \times 100 = 37.5\%$

f) In 2003 John paid Julie 20 cents per apple to pick the complete harvest. How much was she paid?

35000 x 0.2 = $7000

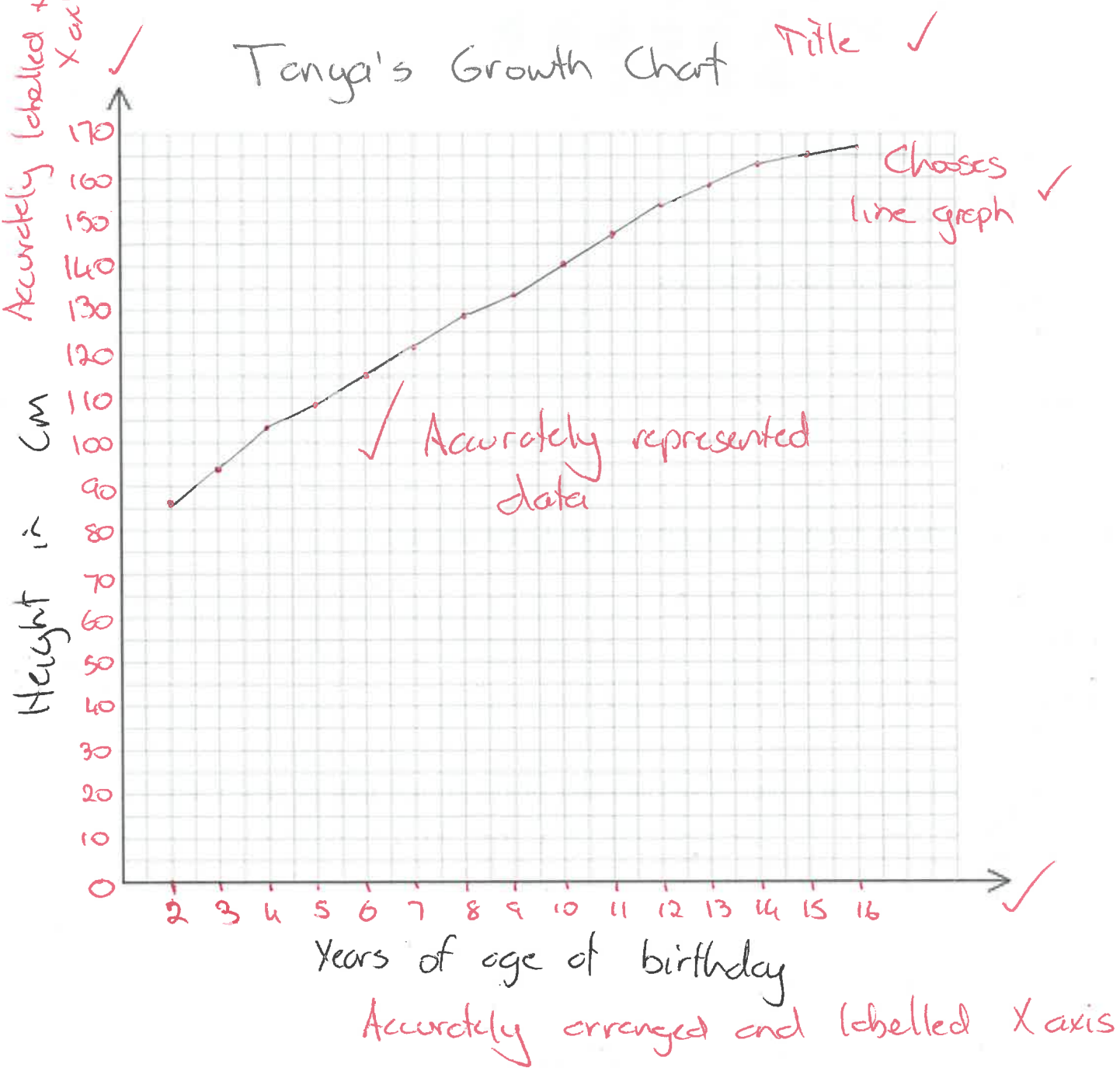
/9

Question 6 (5 marks)

Below is a table with Tanya's height at each birthday from 2 years to 16 years old. Each height has been measured to the nearest centimetre.

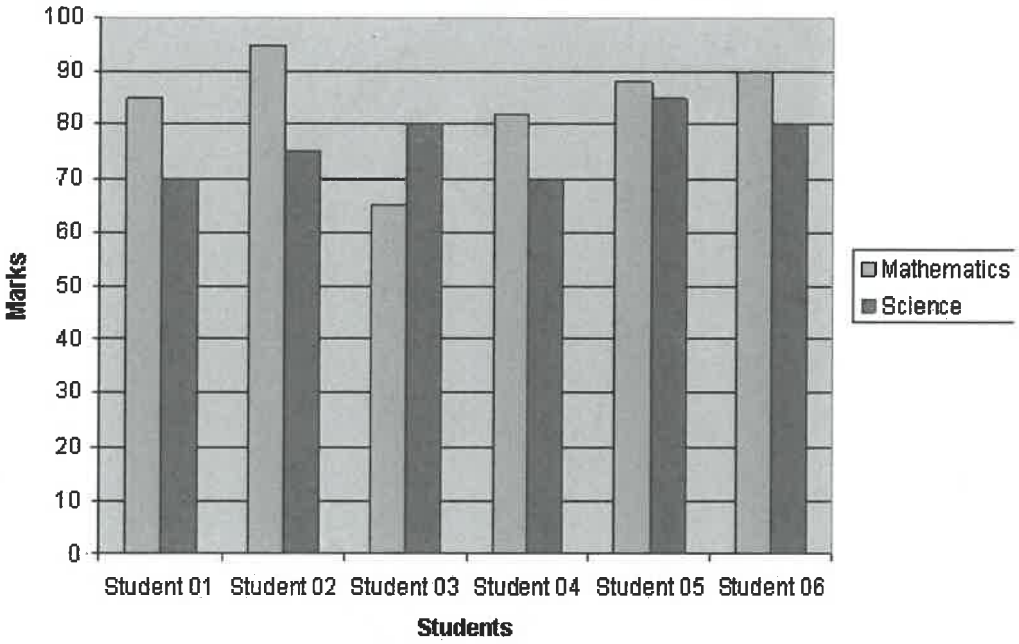
Age in years	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Height (cm)	86	94	103	108	115	121	128	133	140	147	154	158	163	165	166

a. Use the grid below to graph the above information.



Question 7 (4 Marks – 1, 1, 1, 1)

The Deputy Principal at Winnibap College has taken a small sample of 6 students and recorded their Mathematics and Science scores. The sample is shown below in a Histogram.



a) Which student provided the best Mathematics score?

Student 2

b) Which student provided the worst Science score?

Students 1 and 4

c) Which student's Mathematics and Science scores are the closest together?

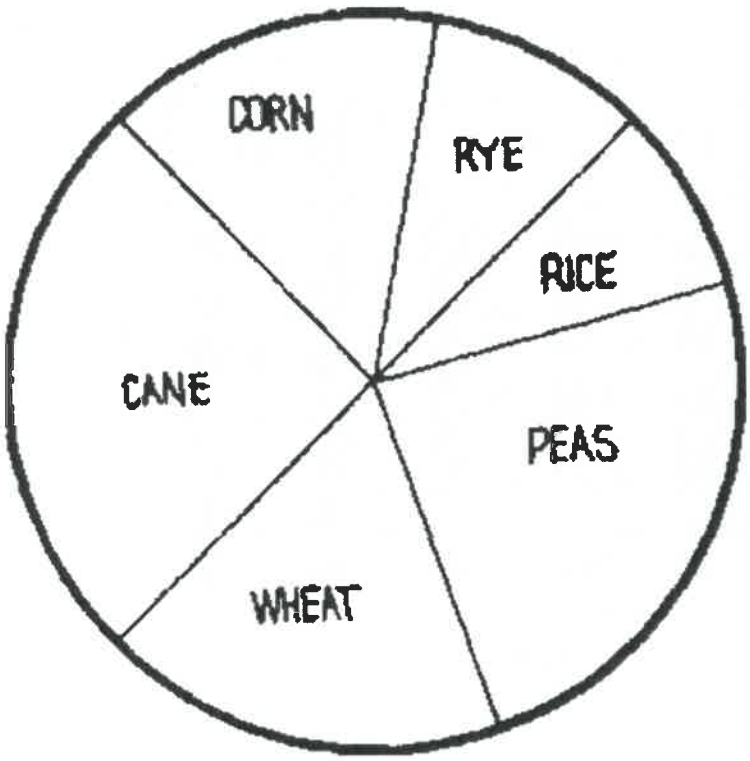
Student 5

d) Overall, do you think the students perform better at Mathematics or Science? Justify your answer.

Mathematics, 5 out of 6 students had a higher maths score than science score.

Question 8 (6 marks – 2, 2, 2)

The following Pie Chart shows the proportion of sales that a wholesale market sells:



a) Which two items do they sell the most of?

Cane and Peas

b) Which two items do they sell the least of?

Rye and Rice

c) Which two items are *most likely* to each be worth 15% of the share? Explain why.

① Rye and Rice because they are the closest in size to one another, therefore they could have the same value of 15% (But their segments are much smaller than 15%) * Must be justified

② Wheat and Corn - because they are similarly sized and much closer to the actual size of 15% or 54° of the circle.