

High School

Year

Mathematics Test – Graphs and Plots

Non Calculator Test

Name _____

Questions 1 to 4 refer to the graph below which shows the numbers of fiction books according to their genre in Kirkton Library.

<i>Genre</i>	<i>Number of Books in Kirkton Library</i>
Thriller	
Romance	
Fantasy & SF	
Comedy	
Historical Drama	
Crime	
Childrens	
Young Adult	
= 50 books	

1. How many books in the library were Thrillers?

5

50

250

500

2. Which Genre had 400 books in the library?

Young Adult

Crime

Romance

Fantasy & SF

3. How many more Historical Drama books were there compared to Comedy books?

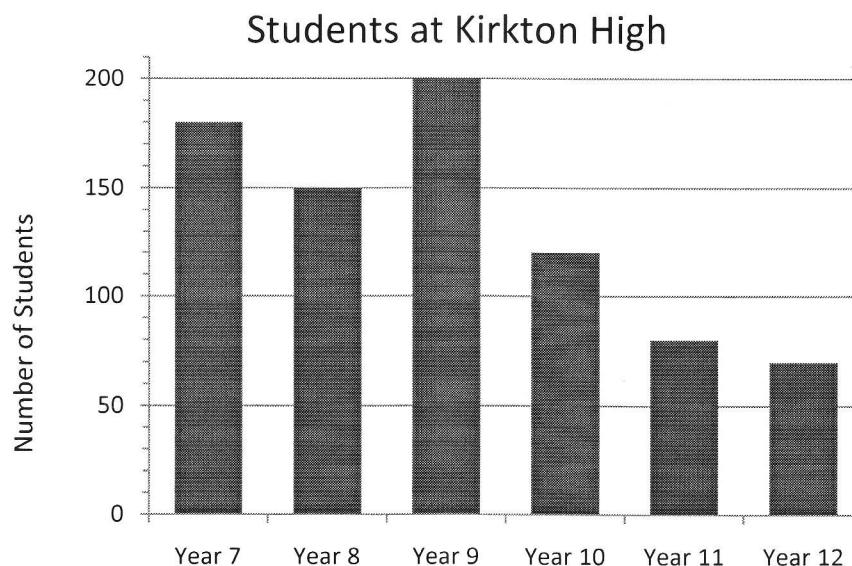
350

more books

4. How many fiction books were in the library?

2400 books

Questions 5 to 9 refer to the graph below which shows the number of students in each year in Kirkton High School.



5. How many students were in Year 7?

200

180

150

153

6. Which year had 120 students?

Year 7

Year 8

Year 9

Year 10

7. How many more students were in the largest year compared to the smallest year?

130

more students

8. How many students were in Kirkton High School?

800

students

9. Which year had $\frac{1}{4}$ of all the students at Kirkton High School?

Year 7

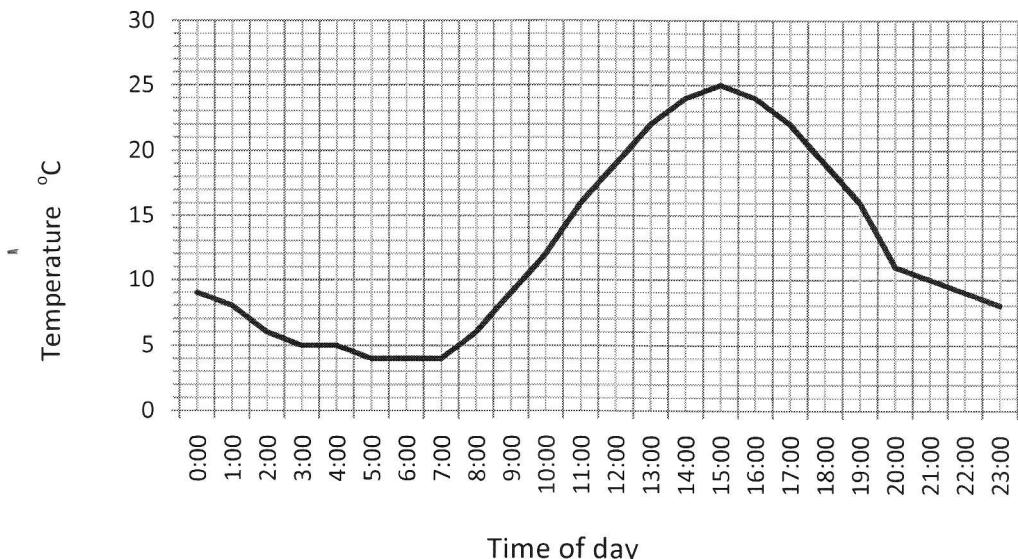
Year 8

Year 9

Year 10

Questions 10 to 14 refer to the graph of the temperature over 24 hours at Kirkton.

Temperature At Kirkton



10. What was the temperature at 8:00?

7°C

6°C

5°C

4°C

11. At what time was the temperature 25°C ?

13:00

14:00

15:00

16:00

12. What is the difference between the highest and lowest temperatures (the temperature range)?

21 $^{\circ}\text{C}$

13. At one point in the day, the same temperature was recorded for 3 consecutive hours. What was this temperature?

4 $^{\circ}\text{C}$

14. When did the temperature fall most quickly?

Between 16:00 and 17:00

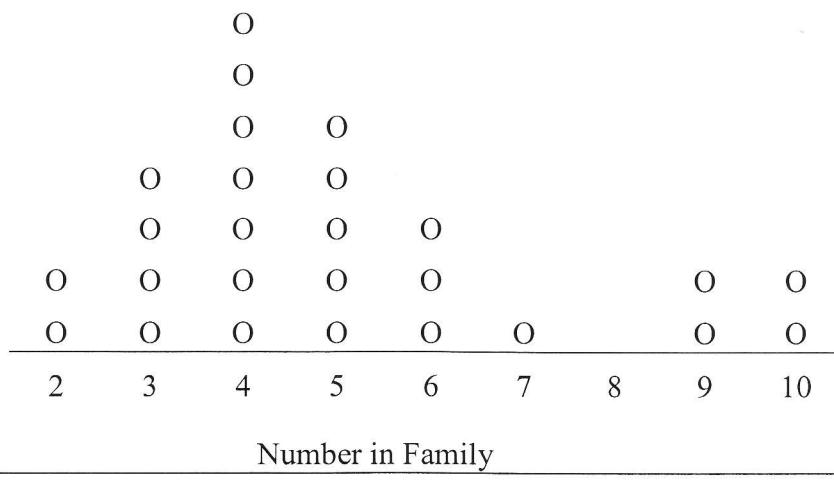
Between 17:00 and 18:00

Between 18:00 and 19:00

Between 19:00 and 20:00

Question 15 – 19 refer to the dot plot below which was drawn when a sample of people were asked their family size (parents and siblings).

Family Size of a Sample of People



15. What was the largest family size in the sample?

7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

16. How many people had a family with 5 members?

3	4	5	60
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

17. What sized family was represented by only one person in the sample?

A family size of 7

18. How many people were asked about their family size?

26 people

19. Which is correct?

Half of the families in the sample were:

- | | |
|--|--|
| <input type="checkbox"/> smaller than 3 in size. | <input type="checkbox"/> smaller than 4 in size. |
| <input type="checkbox"/> larger than 3 in size. | <input checked="" type="checkbox"/> larger than 4 in size. |

Questions 20 – 25 refer to the stem and leaf plot below, which was drawn when a sample of people were asked their height in centimetres.

Stem	Leaf						
12	4	5	7				
13	2	4	5	6	8		
14	3	4	5	7	7	7	
15	2	3	3	5	7	8	9
16	6		8	9	9		
17	0	0	2	8			
18	2	4	5				

20. How many people had a height of 170 cm?

2 people.

21. What height was most common?

147 cm.

22. What was the shortest height recorded?

124 cm.

23. Marko's height is circled. His friend Joey is 6 cm taller than Marko. What is Joey's height?

165 cm

171 cm

159 cm

233 cm

24. What is the difference between the tallest and shortest heights?

62 cm

61 cm

6.2 cm

6.1 cm

25. What fraction of the people surveyed had their height less than 140 cm?

1
—
4

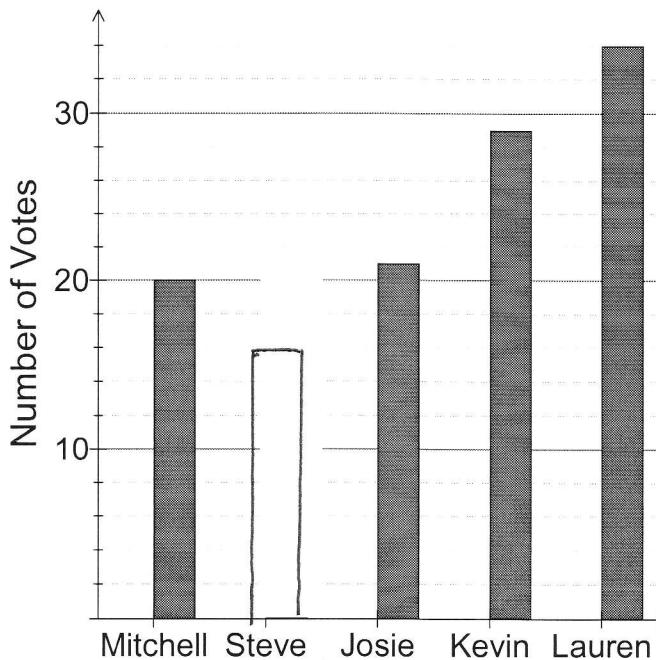
Year 8 Test – Graphs Tables and Charts

Calculator Test.

Name _____

Questions 1 to 4 refer to the column graph below.

Votes for Year 8 SRC.



1. By how many votes did Lauren outscore Kevin on the voting?

5

votes

2. The column for Steve was left out. If there were 120 students who voted, complete the column for Steve.

On graph.

3. How many more votes would Lauren need to have 50% of the votes?

24

16

26

28

4. What fraction of the votes did Mitchell receive?

$\frac{1}{4}$

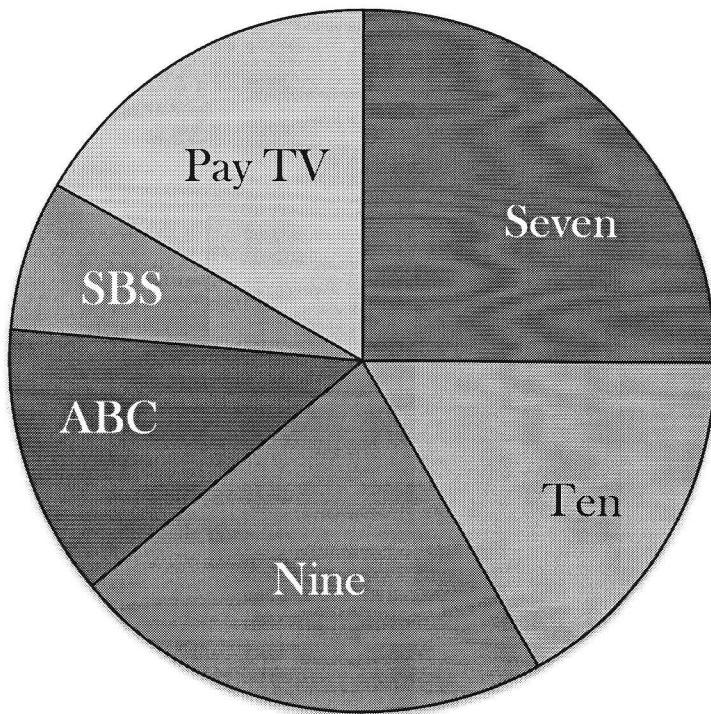
$\frac{1}{6}$

$\frac{1}{5}$

$\frac{1}{3}$

Questions 5 to 8 refer to the graph below.

Proportion of Viewers on a Saturday Night



5. The angle representing Nine is :

85°

75°

80°

90°

6. One channel has exactly a quarter of the market and another has one eighth. They are:

Nine and Pay TV

Seven and SBS

Nine and ABC

Seven and ABC

7. What percentage of the viewers were watching Pay TV?
(to the nearest whole number)

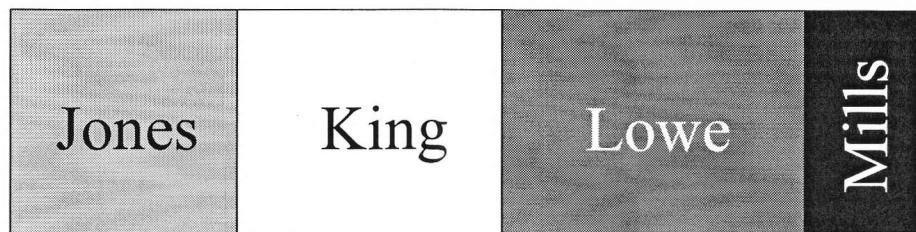
17 %

8. There were 480 viewers surveyed to produce this graph. How many were watching Ten?

80 viewers.

Questions 9 to 12 refer to the graph below.

Points won by the Houses at the Swimming Carnival



9. Complete the table for the placings at the carnival.

House	Position
Lowe	1st Place
King	2nd Place
Jones	3rd Place
Mills	4th Place

10. Which house won twice as many points as Mills?

11. Which house won $\frac{1}{3}$ of the total points?

12. If Lowe won 240 points, how many points did Jones win?

120 points

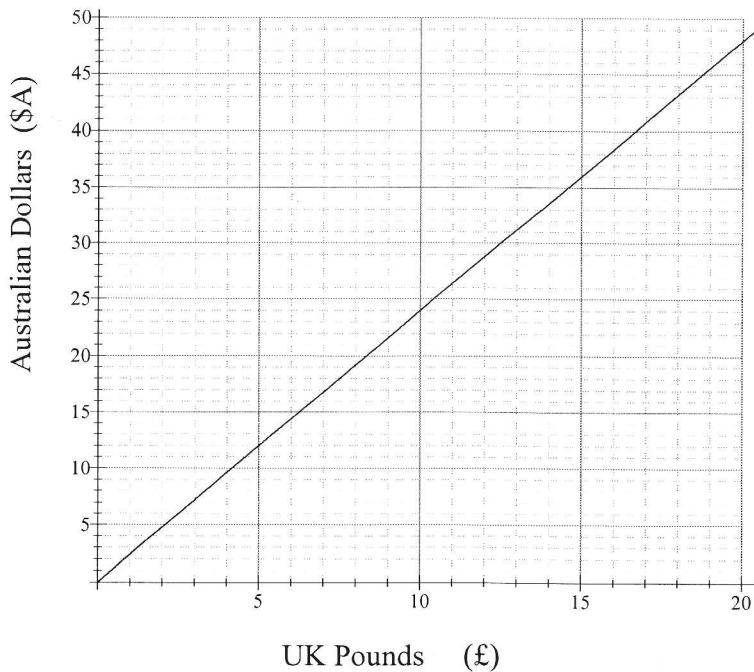
190 points

200 points

180 points.

Questions 13 to 16 refer to the graph below.

Conversion between Australian Dollars and UK Pounds



13. The value of \$A36 is closest to

£14.00

£14.50

£15.00

£15.50

14. The value of £10 is closest to

\$22

\$24

\$25

\$28

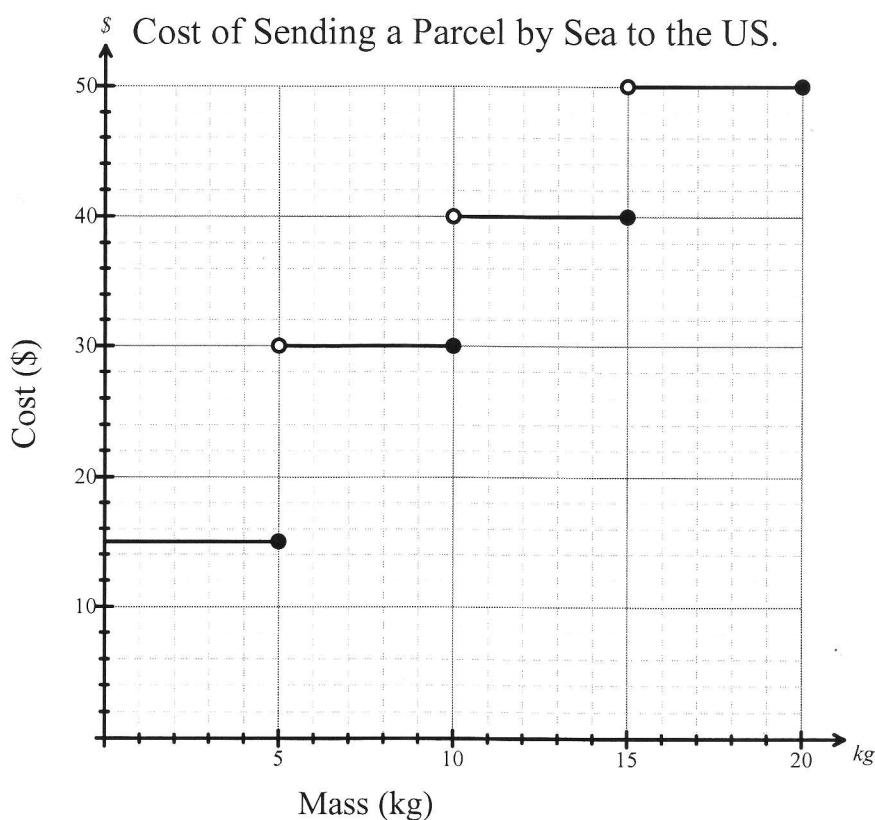
15. Jack wants to buy a model from the UK which is advertised as £45.00. How much would this be in Australian dollars?

\$ 18.75

16. Kelsey wants to send \$720 home to her mum in the UK. How much will her mum get in UK pounds?

£ 300

Questions 17 to 20 refer to the graph below.



17. What is the cost of sending a 4kg parcel?

\$10.00

\$12.50

\$15.00

\$16.00

18. What is the cost of sending a 15kg parcel?

\$ 40 · 00

19. Leica has \$35 in her bag when she goes to send a parcel to the US. What is the heaviest parcel that she could send?

8 kg

10 kg

12 kg

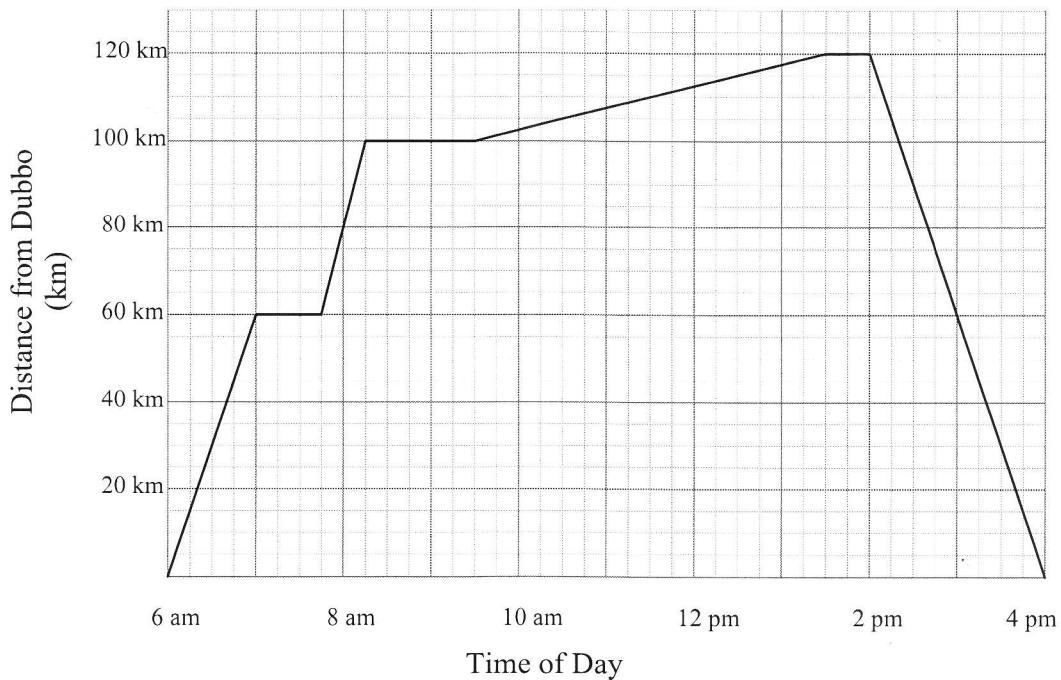
15 kg

20. James and Paula have presents for their grandmother, which weigh 6 kg and 3 kg. How much could they save by putting them in one package compared to sending two packages?

They could save \$ 15 · 00

Questions 21 to 24 refer to the graph below.

Bretts Journey from Dubbo to Nyngan and Back



21. Complete the following;

The time that Brett first stopped was at 7 am/p.m

and he was stopped for 45 minutes.

22. How many hours after leaving Dubbo, did Brett arrive in Nyngan, 120 km away.

7 $\frac{1}{2}$ hours.

23. The fastest average speed at any time, in either direction was between;

6 am and 9 am 7:45 am and 8:15 am 9:30 am and 1:30 pm 2 pm and 4 pm

24. Brett walked the last part of his journey into Nyngan between 9:30 am and 1:30 pm.
What was his average speed for this part of the journey?

5 km/h.

25. Bella collects data on the favourite Movie among her classmates. This data is;

Quantitative and Continuous

Categorical



Quantitative and Discrete

-
26. Year 8 conducts surveys on the four subjects, listed below. Which survey is an example of collecting quantitative discrete data;

The number of siblings of 100 children.

The heights of 100 students.

The names of 100 students.

The favourite food of 100 students.

27. As part of a proposal for a new uniform at Brelaba High School, students collect the data listed below.

Write the letter C in the box beside those which are examples of a Census.

Write the letter S in the box beside those which are examples of a Sample.

S Ask a third of the students in the school their opinion on the new uniform.

C Measure the heights of all students in the school.

S Ask the preferred colour of 20% of the students in the school.

C Ask the shirt size of all of the boys in the school.

28. A company collects information on voting intentions in a NSW state election, by surveying a sample of voters.

Which of the following is an example of a biased survey;

Choosing every 2000th person from every electoral roll in NSW.

Choosing every 10 000th person from every phonebook in NSW.

C Choosing every 2000th person from the Sydney phonebook.

Choosing every 10 000th person from every electoral roll in NSW.

Questions 29 to 32 refer to the frequency below.

Quiz Results from a Class

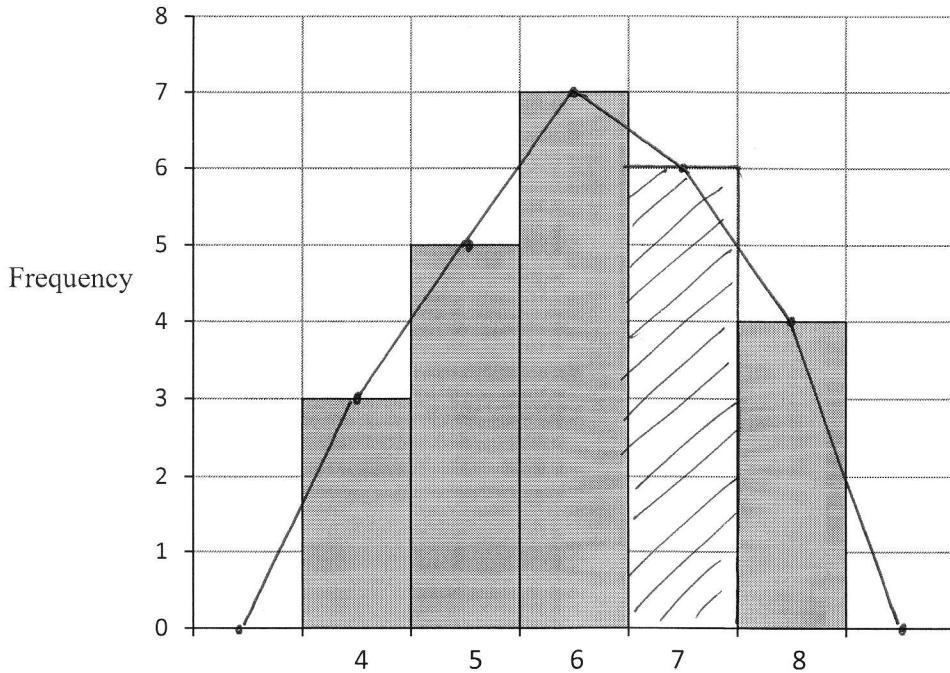
Score	Tally	Frequency (f)
4		3
5		5
6		7
7		6
8		4

29. On the table above, complete the missing tally marks for the score of 6 and the missing frequency for the score of 7.

30. How many students were in the class?

25 students.

31. Draw the missing column on the frequency histogram created from the table above.



32. On the same axes as the histogram, draw a frequency polygon.

Lithgow High School

Year 8 Mathematics Test – Statistical Measures

Calculator Test

Name _____

1. To collect data about year 8 students in a school with five year 8 classes, Jason interviews every year 8 student and Karen distributes a printed survey to the students in her year 8 maths class. Which is true?

- Jason is using a sample and Karen is using a census.
 Karen is using a sample and Jason is using a census.
 Both Jason and Karen are using a census.
 Both Jason and Karen are using a sample.

-
2. The ages of 12 players on the Hillston basketball team are listed below.

16, 17, 23, 25, 28, 15, 35, 16, 32, 19, 29, 45

Find the mean of the ages.

25

-
3. Kaylah collects data on the family size of a sample of 14 students. They are listed below.

6, 5, 1, 2, 3, 5, 5, 4, 7, 2, 3, 1, 2, 4

The median of the data is

2

3

3.5

4

-
4. The results of 8 friends on a Science test are given below.

72, 45, 89, 54, 23, 66, 66, 90

The range of their marks is:

18

67

45

66

5. Laith collects data on the shirt sizes of a sample of 20 students. They are listed below.

46, 42, 44, 38, 40, 44, 36, 38, 40, 42
40, 38, 42, 38, 40, 38, 40, 36, 44, 38

The modal size is:

36

38

40

42

-
6. Marcus compares the number of points scored by two rugby league teams over 5 rounds.

Tigers 43, 20, 15, 34, 21
Sharks 32, 24, 23, 37, 23

Which is true?

- The Tigers have a greater mean, but the Sharks have a greater range.
 The Sharks have a greater mean, but the Tigers have a greater range.
 The Tigers have a greater mean and a greater range.
 The Sharks have a greater mean and a greater range.

-
7. The weekly mobile phone costs of 7 friends were:

\$16, \$45, \$23, \$45, \$24, \$23, \$45

Which is correct?

- The median is 21 more than the mode.
 The mode is 21 more than the median.
 The median is 22 more than the mode.
 The mode is 22 more than the median.

-
8. The mean of Terry's first five test marks is 45. What mark must he score on the sixth test to raise his mean over the six tests to 50?

75

-
9. Jacquie scored the following number of goals in six games, but one score has been smudged. If the median of the six scores was 12.5, what is the smudged score?

16, 8, 9, ~~12~~, 10, 23

15

Questions 10 to 14 refer to the frequency table below which gives the marks on a quiz out of 12.

Score (x)	Frequency (f)	fx
7	1	
8	4	
9	5	B
10	7	
11	6	
12	5	

$$\Sigma f = \mathbf{A} \quad \Sigma fx = \mathbf{C}$$

10. The mode of the marks is :

11
9
10
5

11. The value of **A** is :

6
28
57
12

12. The value of **B** is :

45
95
14
59

13. The value of **C** is :

12
28
85
280

14. The mean of the marks is:

10

Questions 15 to 18 refer to the stem and leaf plot below which gives the percentage of fibre in the diets of 20 people.

0	9
1	5 7
2	5 7
3	3 5 7 8
4	1 1 1 9 9
5	4 6 8
6	7 9
7	4

-
15. The modal percentage of fibre is :

1

41

37

49

16. The mean percentage of fibre (to the nearest percent) is :

42

41

6

43

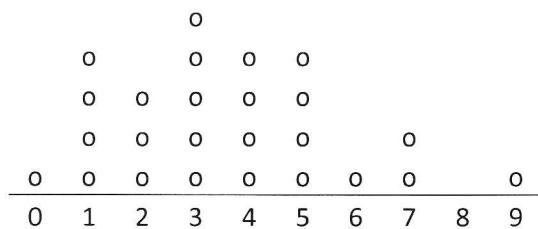
17. Write down the range of the percentages.

$$\text{Range} = \boxed{65}$$

18. Write down the median of the percentages.

$$\text{Median} = \boxed{41}$$

Questions 19 to 22 refer to the dot plot below which gives the number of tries a Rugby team scored in 25 games.



-
19. The modal number of tries is :

1

3

4

9

20. The mean number of tries is :

2.5

3.75

3.375

3.6

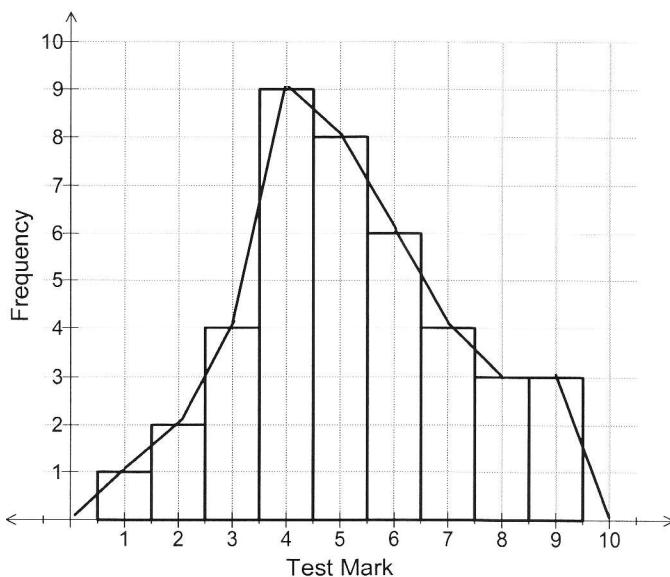
21. Write down the range of the number of tries.

Range =

22. Write down the median of the number of tries.

Median =

Questions 23 to 25 refer to the frequency histogram and polygon which shows the test marks of 40 students.



23. The mode of the marks is :

4

5

9

10

24. The range of the marks is :

10

9

8

7

25. Calculate the mean of the marks.

$$\text{Mean} = \boxed{5.2}$$