Summary

Test Identification	
Name	2021 MY MATH 2.5
Date Created	16 May 2021
Date Modified	22 Jun 2021
Subject	Mathematics
Status	SCORED
Sequence Number	1132717
Total Test Time	59 minutes
Delivery Method	Onscreen

Curriculum Strand			
Number Sense & Operations	12	Number Knowledge	11
Statistics	10	Algebra	13

Curriculum Level					
4B	2	4P	2	4A	3
5B	9	5P	12	5A	13
6B	3	6P	1	6A	1

Cognitive Processing			
Surface	25	Deep	21

Slider Settings			
Strands		**Level**	
Number Knowledge	Most	Level 4	Few
Number Sense & Operations	Most	Level 5	Most
Algebra	Most	Level 6	Few
Statistics	Most		

Marking Guide : 2021 MY MATH 2.5

Q.No	Marking Key
1	384.23
2	4
3	22
4	a
5	b
6	e
7	c
8	c
9	b
10	a
11	d
12	c
13	b
14	Movies: 0.25, $10.00 'Both required for 1 mark.'
15	Popcorn: 0.2, $8.00 'Both required for 1 mark.'
16	Drink: 0.05, $2.00 'Both required for 1 mark.'
17	c
18	Hundredths
19	0.06
20	a
21	b
22	c
23	d
24	d
25	a
26	b
27	c
28	c
29	e

Instructions

Underlined Questions e.g. **10** :Use teacher judgement. Give 1 if answer matches marking guide (unless otherwise instructed). For incorrect answers give 0 (zero).
All other Questions: Enter the response chosen by the student using letters. For example, 'a' for the first option; 'b' for the second option; 'c' for the third option and so on.
Questions Not Answered: Enter a dash (-).

Q.No	Marking Key
30	Maria, explanation such as: To get the biggest difference, one needs the biggest poss number on top in the 100ths place, with the smallest poss number on the bottom; Carla''s answer will be less than 100 and Maria''s answer at least 194 'Or equivalent explanation'
31	c
32	b
33	a
34	d
35	d
36	d
37	a
38	c
39	c
40	Larger sample of families, OR food bill collected over more weeks, OR an equivalent.
41	3, 5, 4, 1, 2 'all in order for one mark'
42	-1.7
43	If you train more, you enjoy your sport; OR if you do little training, you are not likely to play sport next year; OR similar
44	Reaction time generally improves as you get older, or as age increases reaction time decreases, or similar
45	Every 6th person in each row, or every 10th person at the door, or similar, showing either systematic selection or random selection 'Accept randomly'
46	11

Instructions
Underlined Questions e.g.   **10** :Use teacher judgement. Give 1 if answer matches marking guide (unless otherwise instructed). For incorrect answers give 0 (zero).
All other Questions: Enter the response chosen by the student using letters. For example, 'a' for the first option; 'b' for the second option; 'c' for the third option and so on.
Questions Not Answered: Enter a dash (-).

Choose a circle to show how much each sentence is like you	Very Unlike Me	Unlike Me	Like Me	Very Like Me
	1	2	3	4
01. I like maths at school.	◯	◯	◯	◯
02. I am good at maths.	◯	◯	◯	◯
03. My teacher thinks I am good at maths.	◯	◯	◯	◯
04. My family/whānau think I am good at maths.	◯	◯	◯	◯
05. I enjoy doing maths in my own time (not at school).	◯	◯	◯	◯
06. I enjoy doing things in maths that I haven't tried before.	◯	◯	◯	◯

Practice Questions

These practice questions are to help you understand how to show your answer for different types of questions.

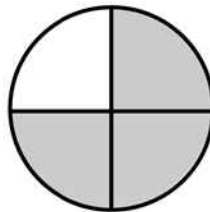**P01.** Who is holding a card with an even number on it?
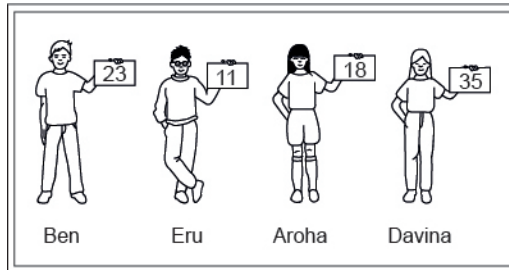
⬭   Ben

⬭   Eru

⬭   Aroha

⬭   Davina

P02. Complete this number pattern.

2, 4, ____, ____, 10

P03. What fraction of this circle is shaded?
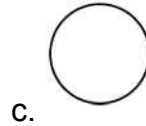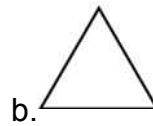

☐

────

☐

P04. Match the sentence with the correct shape.

☐   1. I have three sides

☐   2. I have 4 sides

a. □

b. △

c. ○

P05. Which numbers make this number sentence **TRUE**?

$$2 + ☆ > 5$$

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

P06. Put the numbers 1, 2, 3, and 4 in the boxes to order these numbers from biggest (1) to smallest (4).

☐   3

☐   7

☐   2

☐   0

P07. Select whether the following statements are True or False.

	TRUE	FALSE
In the number 213, the value of 1 is ten.	⬭	⬭
In the number 504, the value of 5 is fifty.	⬭	⬭

01. Write the answer to this question.

59.5 + 6.7 + 243.03 + 75 = _____

Use the following information to answer questions 02 to 03.

Find $\frac{2}{3}$ of each of these numbers.

02.

6 _____

03.

33 _____

End of Section

04. The chart below shows a random sample of students' ages at a community college. Administrators at the college constructed a histogram of the students' ages.
Which of the following histograms **BEST** represents the distribution of students' ages?

22	18	35	43	44	19
18	38	36	20	19	37
37	20	19	38	38	21

○

○

○

○
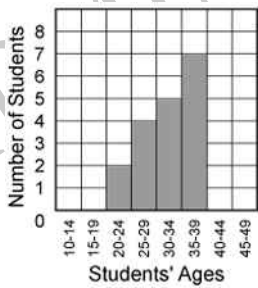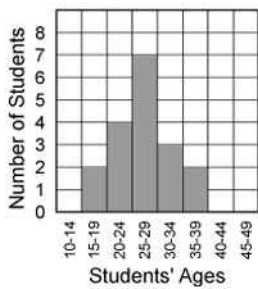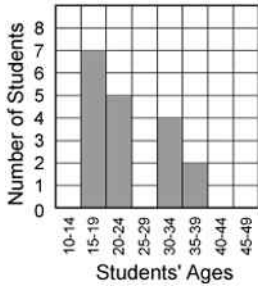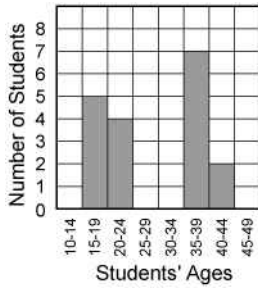
05. The place value of the one in 9.103 is

○   ones

○   tenths

○   hundredths

○   thousandths

06. Of the following, which is *closest* in value to 0.52?

○ $\dfrac{1}{50}$

○ $\dfrac{1}{5}$

○ $\dfrac{1}{4}$

○ $\dfrac{1}{3}$

○ $\dfrac{1}{2}$

07. A 45 000 litre water tank is filled at the rate of 220 litres per minute. Estimate, to the nearest half an hour, how long it will take to fill the tank.

○   4 hours

○   3 hours

○ $3\frac{1}{2}$ hours

○ $2\frac{1}{2}$ hours

08. The table below shows the number of babysitting jobs Emma and her friends had last month.

What was the mean (average) number of babysitting jobs Emma and her friends had last month?

Babysitting Jobs	
Name	**Number of Jobs**
Emma	13
Amy	7
Kori	8
Aroha	8

- ⬭ 7
- ⬭ 8
- ⬭ 9
- ⬭ 13

09. Jason bought a jacket on sale for 50% off the original price and another 25% off the discounted price.

If the jacket originally cost $88, what was the final sale price that Jason paid for the jacket?

- ⬭ $22
- ⬭ $33
- ⬭ $44
- ⬭ $66

10. What is the value of $x^2(7 - x) + 2$ when $x = 5$?

- ⬭ 52
- ⬭ 100
- ⬭ 152
- ⬭ 172

11. Which of the following is true?

○ $\frac{1}{4} > 1\frac{1}{2}$

○ $-4 < -5$

○ $-5\frac{1}{2} > 3\frac{1}{2}$

○ $-1 < -\frac{1}{2}$

12. Which is the closest to the value of x if $x = 2\sqrt{7}$?

○   3.2

○   3.7

○   5.3

○   9.9

13. The orbit of Jupiter is 1.12 x 10^6 km in length. What is this distance written in ordinary form?
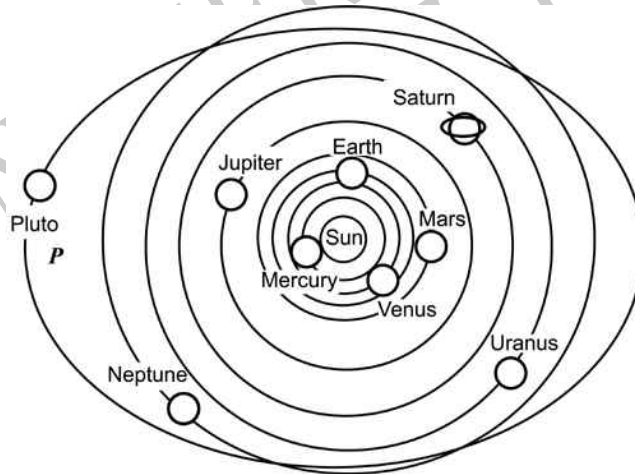
○   112 000 km

○   1 120 000 km

○   11 200 000 km

○   112 000 000 km

Use the following information to answer questions 14 to 16.

Henri earned $40 a week on his paper run.

During the week he used his money on savings, movies, popcorn and drinks.

Complete each question to show how Henri used his money, like this example for his Savings Account.

	Fraction	**Decimal**	**$**
Savings Account	$\frac{1}{2}$	0.5	$20.00

14.

Movies	$\frac{1}{4}$	_____	_____

15.

Popcorn	$\frac{1}{5}$	_____	_____

16.

Drinks	$\frac{1}{20}$	_____	_____

End of Section

17. Sarah is filling numbers in the Venn diagram. No number is to be entered more than once.
What is the *least* number that can be appropriately placed in the shaded area of the diagram?

Multiples of 15

Multiples of 24

15

24

30

48

45

72
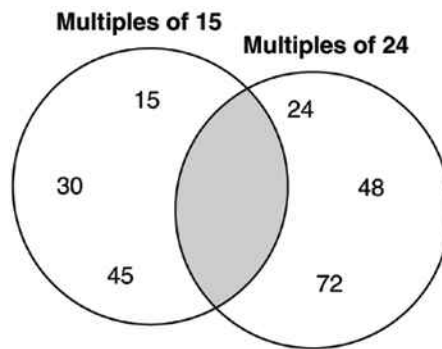
○   360

○   240

○   120

○   60

Use the following information to answer questions 18 to 19.

What is the place value and total value of the six in this decimal?
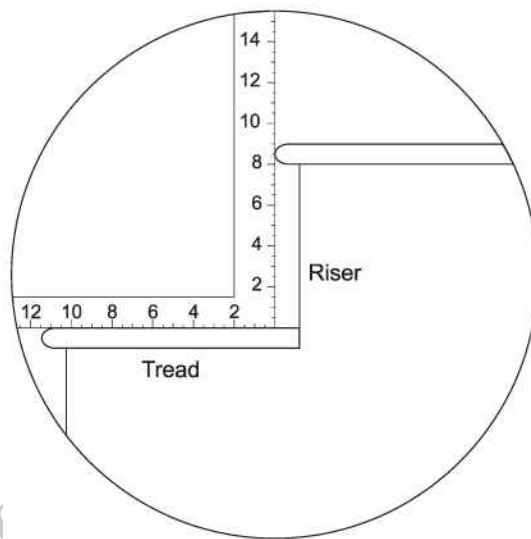
3.964

18.

Place Value_____

19.

Total Value_____

End of Section

20. Which is the **BEST** approximation of the cube root of 31?

$\bigcirc$ 3.1

$\bigcirc$ 3.5

$\bigcirc$ 5.5

$\bigcirc$ 10

21. The diagram shows a carpenter's square that is used to measure riser height and tread length. A carpenter has been asked to replace a staircase with one that is less steep. The carpenter could

$\bigcirc$ increase the riser height leaving the tread length the same.

$\bigcirc$ increase the tread length leaving the riser length the same.

$\bigcirc$ increase the tread length and the riser height proportionally.

$\bigcirc$ decrease the tread length and the riser height proportionally.

22. What was the daily average (mean) number of lunches sold during the week?

Lunch Sales
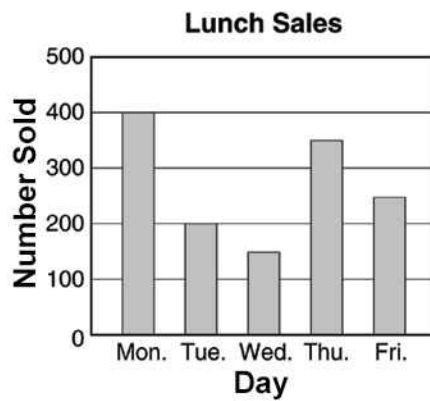
- ⬭ 225
- ⬭ 250
- ⬭ 270
- ⬭ 290

23. 87 900 can be written as:

- ⬭ 8.79×10^{-3}
- ⬭ 8.79×10^{3}
- ⬭ 8.79×10^{-4}
- ⬭ 8.79×10^{4}
- ⬭ 8.79×10^{5}

24. Which of the following is equal to $6(x + 6)$?

- ⬭ $x + 12$
- ⬭ $6x + 6$
- ⬭ $6x + 12$
- ⬭ $6x + 36$
- ⬭ $6x + 66$

25. What is the value of $x - (3x + 5)$ when $x = -2$?

- ⬭ -1
- ⬭ 1
- ⬭ 5
- ⬭ 9

26. How many integers are there between $\sqrt{15}$ and $\sqrt{63}$?

- ⬭ Three
- ⬭ Four
- ⬭ Five
- ⬭ Six
- ⬭ Seven

Use the following information to answer question27..

Louise records the number of goals she scores in each soccer match. Her results are shown in this table.

Number of goals	Number of matches
0	4
1	2
2	3
3	0
4	1

27. In how many matches did Louise score *at least* 2 goals?

- ⬭ 1
- ⬭ 3
- ⬭ 4
- ⬭ 9

28. The table shows the height of a bean plant over a 5-day period.
Which of the following shows this data correctly graphed?

Day	Height
Monday	16 cm
Tuesday	19 cm
Wednesday	28 cm
Thursday	30 cm
Friday	34 cm

○

Plant Height

○

Plant Height

○

Plant Height

○

Plant Height
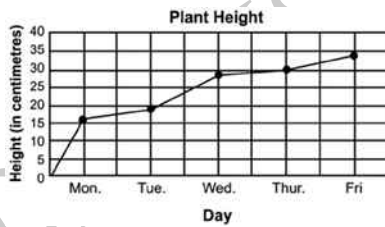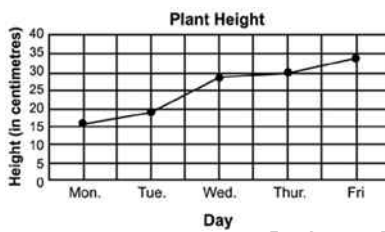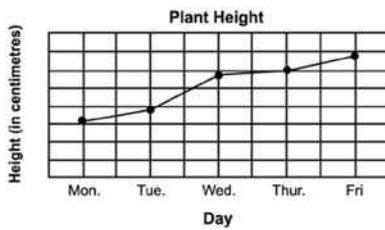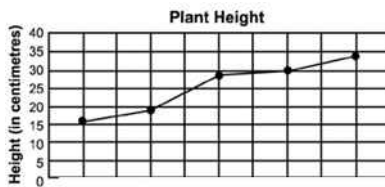
29. If $x = -3$, what is the value of $-3x$?

○ -9

○ -6

○ -1

○ 1

○ 9

30. In a game, Carla and Maria are making subtraction problems using tiles numbered 1 to 5. The player whose subtraction problem gives the largest answer wins the game. Look at where each girl placed two of her tiles.

Who will win the game? _____

Explain how you know this person will win.

_____

_____

_____

31. The table shows the winning distance (in metres) for the Olympic shot put event since 1896.
Which statement **BEST** summarises the data?

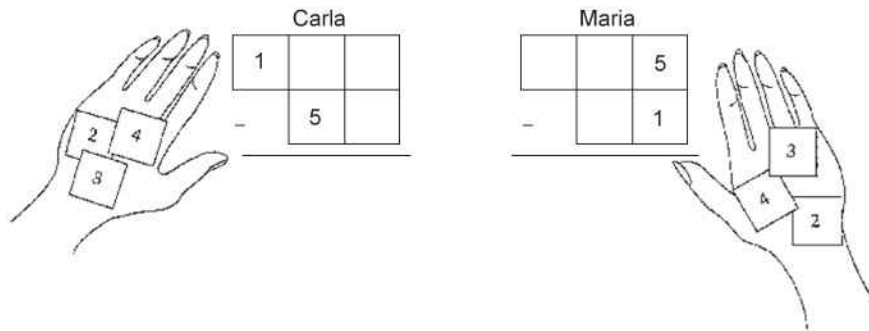| Year	Distance (m)	Year	Distance (m)
1896	11.22	1956	18.57
1900	14.10	1960	19.68
1904	14.81	1964	20.33
1906	12.33	1968	20.54
1908	14.21	1972	21.18
1912	15.34	1976	21.05
1920	14.81	1980	21.35
1924	14.99	1984	21.26
1928	15.87	1988	22.47
1932	16.00	1991	21.70
1936	16.20	1996	21.62
1948	17.12	2000	21.29
1952	17.41	2004	21.16

◯ The winning distances increase by more than 21 m over the years since 1896.

◯ The winning distance was always greater than the winning distance at the previous Olympics.

◯ Winners at the last four Olympics throw almost twice as far as the first winner in 1896.

◯ The winning distance has consistently increased over time.

32. The results of a Year 10 Geography class test are shown in the frequency histogram below.
For this data,
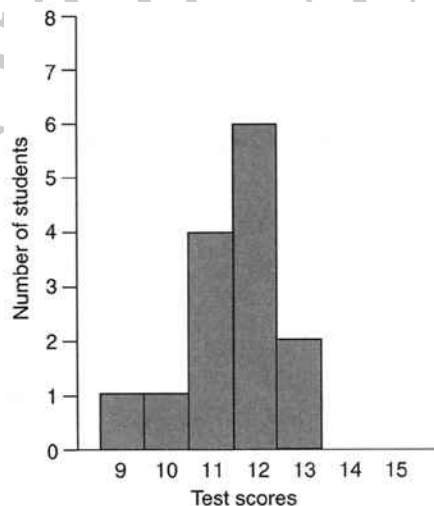
◯ the mode is 12 and the median is 11.

◯ the mode is 12 and the median is 12.

◯ the mode is 11 and the median is 11.

◯ the mode is 11 and the median is 12.

33. The solution of the equation -3x - 6 = 9 is

⬭   -5

⬭   5

⬭   -1

⬭   1

34. Each of 50 people bowled one game in a charity event at a bowling centre. The results of the games are shown in the chart below.
Which one of the following statements about the bowlers' scores is **TRUE**?

Bowlers' Scores

Score Range	Number of Bowlers
0 - 50	9
51 - 100	12
101 - 150	10
151 - 200	13
201 - 250	4
251 - 300	2

⬭   6% of the bowlers scored more than 200

⬭   52% of the bowlers scored less than 100

⬭   The median score is between 51 and 100

⬭   The median score is between 101 and 150

35. Julia and Marcia bought identically priced cans of chilli and identically priced jars of salsa to make a dip.
• Julia bought three cans of chilli and two jars of salsa for $10.07.
• Marcia bought two cans of chilli and four jars of salsa for $12.98.
Which of the following systems of equations could be used to find x, the cost of one can of chilli, and y, the cost of one jar of salsa?

◯ $x + y = 10.07$
        $x + y = 12.98$

◯ $10.07x + 12.98y = 11$
        $x + y = 11$

◯ $2x + 4y = 10.07$
        $2x + 3y = 12.98$

◯ $3x + 2y = 10.07$
        $2x + 4y = 12.98$

36. The graph of $x^2 + y^2 = 16$ has

◯   a radius of 16.

◯   a centre of (0, 1).

◯   a centre of (1, 0).

◯   a radius of 4.

37. The following table shows the total number of line segments that can be drawn connecting two points in a set of coplanar, noncollinear points.
How many line segments can be drawn connecting two points in a set of 11 noncollinear points?

| Number of Points	3	4	5	6	⋯	10	11
Number of Line Segments	3	6	10	15	⋯	45	?

- ⬭   55
- ⬭   50
- ⬭   48
- ⬭   110

38. The student population in the Greenville school system is increasing by about 10% each year. This year there are 3120 students in the Greenville school system.
If this trend continues, which of the following is closest to the number of students who will be in this school system 3 years from now?

- ⬭   3400
- ⬭   4000
- ⬭   4200
- ⬭   9400

39. Which equation **MOST** closely fits the data in this scatter plot?
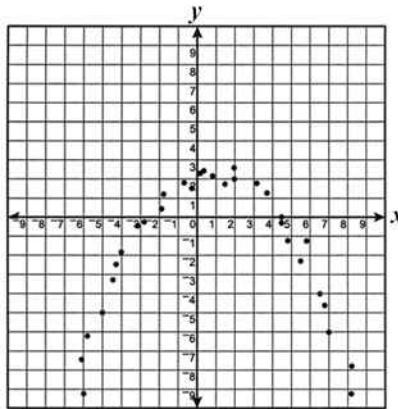
⬭ $y = -(x + 2)^2 - 3$

⬭ $y = (x - 2)^2 + 3$

⬭ $y = -(x - 2)^2 + 3$

⬭ $y = (x - 2)^2 - 3$

40. Rose is investigating the question "Is the cost of food items less in Whangarei than in Wellington?"

Rose collected data on the weekly food bill for two families, one in Wellington and the other in Whangarei.

To do this she:

-chose families with similar incomes and 2 young children.

-chose families that shopped at the same brand supermarket.

-rounded spending to the nearest dollar.

-rank ordered the data.

Suggest one improvement that Rose could have made to the investigation.

_____

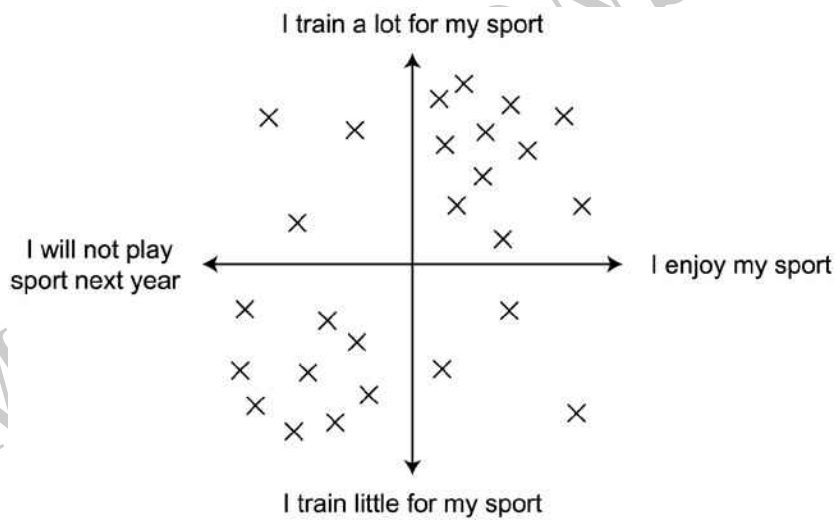**41.** Put the numbers 1, 2, 3, 4 and 5 in the boxes to order the following fractions from the highest (1) to the lowest (5).

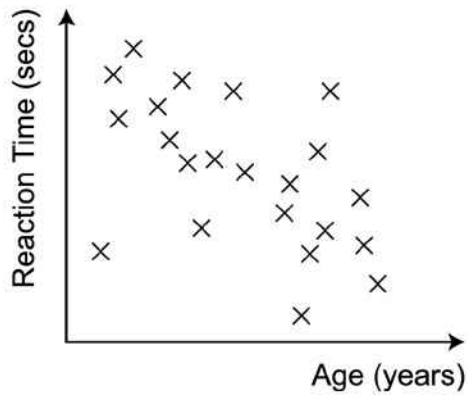|	
☐	$\frac{3}{4}$
☐	$\frac{3}{5}$
☐	$\frac{4}{6}$
☐	$\frac{7}{8}$
☐	$\frac{8}{10}$

42. Calculate $\dfrac{3.5^2}{2.4 - 9.6}$

_____ (1dp)

43. What conclusion can you make from this 2D scale?

_____

44. What conclusion can you make from this 2D scale?

_____

_____

45. The audience at a school concert was asked to rate the concert as great, good, fair or poor. The following are the responses from a sample of the audience.

Good	Fair	Poor	Fair	Poor	Poor	Good	Good
Great	Good	Great	Good	Good	Fair	Good	Good
Poor	Good	Good	Poor	Good	Great	Good	Poor
Fair	Fair	Good	Good	Great	Poor	Good	Good
Fair	Good	Good	Fair	Good	Poor	Great	Fair

What would be a suitable way of selecting a sample from the audience?

_____

_____

46. If $a + 2b = 5$ and $c = 3$, what is the value of $a + 2(b + c)$?

_____

Please provide these instructions to all staff involved with administering e-asTTle online.

Before the testing session

1. Make sure students have the right devices and browsers installed

Unsupported devices may result in the test not displaying correctly and affect students' scores.

Desktop/Laptop	Large Tablets (9"+)
- Windows, Mac or Chromebook - Minimum window width: 1280 pixels - Windows devices need up-to-date Edge, Chrome, Firefox or IE11 - Windows tablets/hybrids e.g., Surface Pro must have a keyboard attached - Mac devices need recent Chrome or Safari	- iPads: iOS 10+ with Safari - Androids: Large tablet e.g., Samsung Galaxy Tab 4. Must have Android 5+ and latest Chrome - Minimum window width: 768 pixels iPad Minis and small Androids must not be used.

More information on device requirements and the underlying rationale is available on the help site.

2. Sit the Practice Test

A practice test for each subject is available. These are also available in the Student Portal (no login required). Practice tests are designed to familiarise you and your students with e-asTTle online before sitting a real test. Each practice test contains attitude questions, look-over time and 5-8 questions designed to be relatively simple to answer. Teacher scripts are available for practice tests.

3. Ensure you have student login information

More information on accessing student logins and resetting passwords is available on the help site.

4. Check if calculators are required (Maths/Pāngarau)

Tests with questions at mostly Level 5 and 6 require the use of calculators. Tests with questions at mostly Levels 2 to 4 do NOT require a calculator.

During the testing session

1. Check equipment
- Make sure students' devices are charged.
- Make sure students have scrap paper and a pen/pencil for working, calculators (if needed) and a quiet activity they can continue with if they finish early.

2. Read the Test Details to students

Once students select a test, they will see the test details page (example shown on right).

Read through this page aloud with your students.
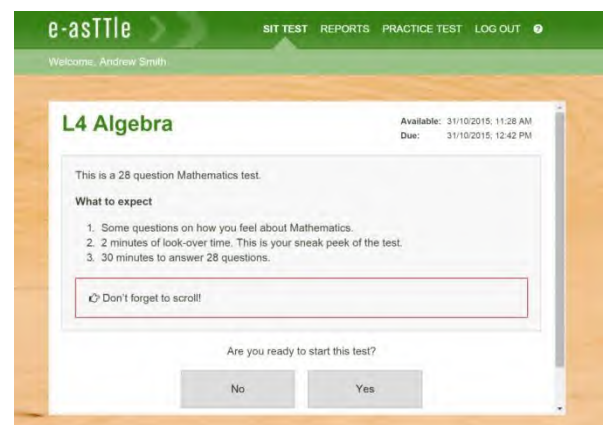
Other reminders to discuss with students:

- Once they choose 'Yes', the timer starts. Once the timer is counting down, there is no way to pause the test. If students close the test accidentally, they can re-open it again, provided the timer hasn't finished.
- Ask students to raise their hand if something seems wrong.
- Fullscreen mode is recommended.

For students on iPad or Android tablet devices: remind them to lock their device in portrait mode.

For students on Windows hybrid devices (such as the Surface Pro): remind them to keep the keyboard attached during the test.

3. Supervising the test

Make sure you walk around and monitor students during the test. Students tend to continue with their test even if something has gone wrong – for example, a question does not display correctly. For this reason, check that pages are loading correctly, and students are scrolling to see all the content and options. It's a good idea to have a paper booklet of the test available during the testing session.

Students are generally expected to read the test content without assistance. Information on accommodations (e.g., reader-writers) is available on the help site.

4. Know what to do if things go wrong

Internet disconnected

If student answers aren't saving, e-asTTle will show a yellow banner at the top of the page. The banner will turn red when there has been disconnection for 2 minutes or more. Students can keep answering whatever they can, and e-asTTle will try and save answers. Don't refresh or close the window if a coloured banner is showing.

3 answers still saving...You can keep going.	
34:50 test time left	Question 4 of 30

If the Internet has been down, use your professional judgement to decide if students' results should be excluded.

Images not loading

If an image is missing, students will see an icon they can click to try and reload the image.

A question doesn't load fully or looks strange

If something has loaded incorrectly, it can sometimes be corrected by selecting the 'Next' button then the 'Previous' button to reload the question.

Detailed troubleshooting information is available on the help site. To report issues with online testing or for additional assistance, please contact the Education Service Desk: 0800 225 5428.