

## Summary

### Test Identification

<b>Name</b>	2020 SW MY MATH 2.4
<b>Date Created</b>	18 May 2020
<b>Date Modified</b>	03 Aug 2020
<b>Subject</b>	Mathematics
<b>Status</b>	SCORED
<b>Sequence Number</b>	1024701
<b>Total Test Time</b>	57 minutes
<b>Delivery Method</b>	Onscreen

### Curriculum Strand

<b>Number Sense &amp; Operations</b>	16	<b>Number Knowledge</b>	9
<b>Statistics</b>	10	<b>Algebra</b>	10

### Curriculum Level

<b>3B</b>	4	<b>3P</b>	2	<b>3A</b>	0
<b>4B</b>	7	<b>4P</b>	14	<b>4A</b>	11
<b>5B</b>	0	<b>5P</b>	2	<b>5A</b>	4

### Cognitive Processing

<b>Surface</b>	25	<b>Deep</b>	19
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### Slider Settings

<b>Strands</b>		<b>Level</b>	
<b>Number Knowledge</b>	Most	<b>Level 3</b>	Few
<b>Number Sense &amp; Operations</b>	Most	<b>Level 4</b>	Most
<b>Algebra</b>	Most	<b>Level 5</b>	Few
<b>Statistics</b>	Most		

## Marking Guide : 2020 SW MY MATH 2.4

Q.No	Marking Key
<u>1</u>	60 or sixty
<u>2</u>	a
<u>3</u>	2/5 or 3/5 'either answer acceptable for 1 mark'
<u>4</u>	65c
<u>5</u>	30c
<u>6</u>	344, 304, 530 'All three correct for 1 mark. Must be in order stated in Answer Key.'
<u>7</u>	c
<u>8</u>	b
<u>9</u>	b
<u>10</u>	c
<u>11</u>	a
<u>12</u>	d
<u>13</u>	c
<u>14</u>	b
<u>15</u>	c
<u>16</u>	c
<u>17</u>	b
<u>18</u>	b
<u>19</u>	\$0.40, or 40 cents '0.40 cents is incorrect'
<u>20</u>	10 cents per minute 'Accept 10 cents or \$0.10, but not 0.10 cents.'
<u>21</u>	c
<u>22</u>	c
<u>23</u>	c
<u>24</u>	a
<u>25</u>	4
<u>26</u>	c
<u>27</u>	c
<u>28</u>	c
<u>29</u>	c
<u>30</u>	c

### 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
31	b
32	a
33	d
34	b
35	d
36	d
37	d
38	16
39	To add new bottom layer, need 2 more blocks than to make previous layer. OR Total blocks needed is (pattern no) squared. 'Any equivalent answer for 1 mark.'
40	d
41	18
42	23
43	22
44	d

ADMINISTER ON SCREEN ONLY

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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 1	Unlike Me 2	Like Me 3	Very Like Me 4
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01. I think maths is exciting and interesting.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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02. I never get tired of doing maths.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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03. I like to do and think about maths outside of school.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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04. I think maths helps me to understand life.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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05. I think that maths helps people make important decisions.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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06. Maths is NOT boring.

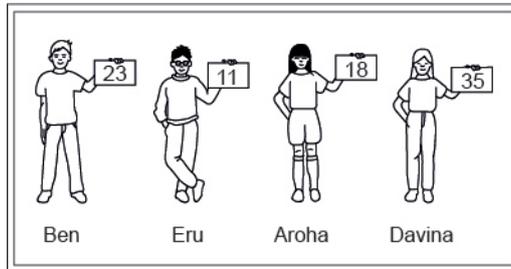
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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## Practice Questions

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?

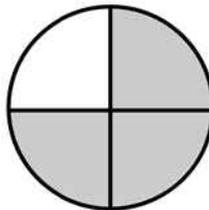


- Ben
- Eru
- Aroha
- Davina

**P02.** Complete this number pattern.

2, 4, \_\_\_\_\_, \_\_\_\_\_, 10

**P03.** What fraction of this circle is shaded?



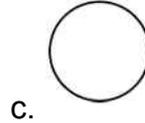
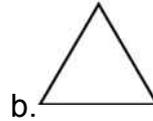
\_\_\_\_\_



**P04.** Match the sentence with the correct shape.

1. I have three sides

2. I have 4 sides



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

$$2 + \star > 5$$

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.

In the number 213, the value of 1 is ten.

**TRUE**

**FALSE**

In the number 504, the value of 5 is fifty.

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ONLY

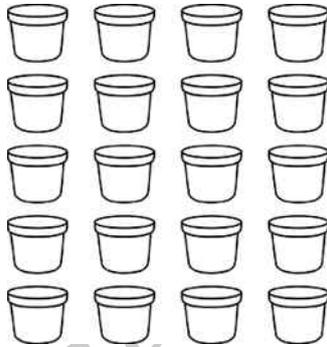
What is the value of the 6 in the following number(s) in question01.?

01.

321 462\_\_\_\_\_

End of Section

02. The picture shows the flowerpots in which Kevin will plant flower seeds. He needs 3 seeds for each pot. Which of the following number sentences shows how many seeds Kevin will need for all of the pots?



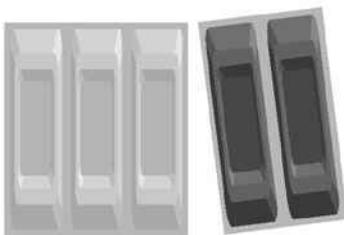
$5 \times 4 \times 3 =$

$(5 \times 4) + 3 =$

$(5 + 4) \times 3 =$

$5 + 4 + 3 =$

03. This block of chocolate is made up of five smaller pieces.



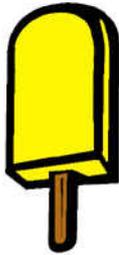
What fraction of the block has been removed?

\_\_\_\_\_

Use the following information to answer questions 04 to 05.

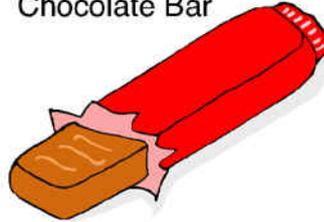
Sarah has \$2.00 and is deciding whether she will buy an ice block or a chocolate bar.

Ice Block



\$1.35

Chocolate Bar



95 cents

04. If Sarah bought one ice block, how much money would she have left?

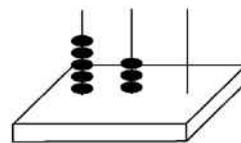
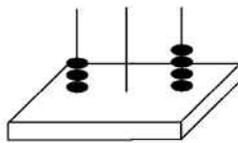
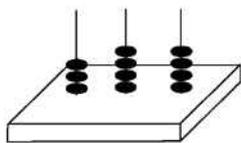
\_\_\_\_\_ cents

05. How much **more** money would Sarah need to buy the ice block **and** the chocolate bar?

\_\_\_\_\_ cents

End of Section

Use the three abacuses shown to answer question 06..



**06.** What number does each abacus show?

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

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End of Section

**07.** John had to multiply 79 by 6.

Which one of these would be **closest** to his answer?

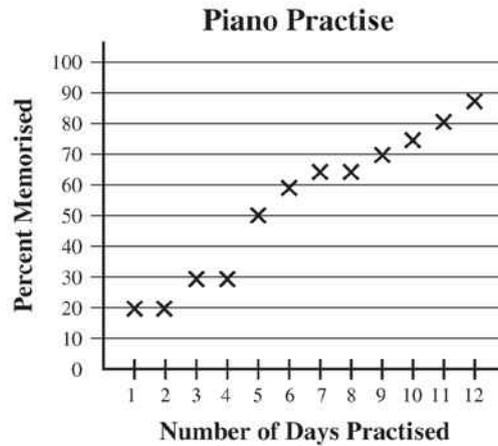
- 420
- 460
- 480
- 500

**08.** If  $n = 31$ , what is the value of  $6 - n$ ?

- 37
- 25
- 25
- 37

09. Regina's piano teacher kept this record of Regina's progress on a song she is memorising.

How many days of practise did it take for Regina to memorise half of the song?



- 4
- 5
- 6
- 8

10. What is the value of the expression  $3(2 - 4)^2 + 3$  ?

- 33
- 9
- 15
- 39

11. What value for  $z$  makes this equation **TRUE**?

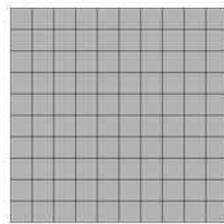
$$8 \times 37 = (8 \times 30) + (8 \times z)$$

- 7
- 8
- 30
- 37

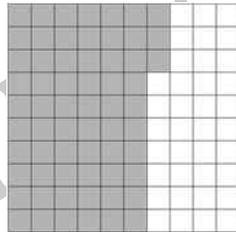
12. Estela wants to buy 2 notebooks that cost \$2.79 each.  
If she has one-dollar coins and no other coins, how many one-dollar coins does she need?

- 3
- 4
- 5
- 6

13. This figure is shaded to represent the number 1.

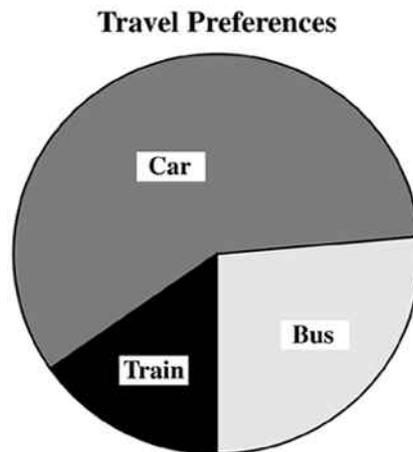


Which of the following numbers is represented by the shaded part of the figure below?



- 63
- 6.3
- 0.63
- 0.063

14. In an opinion poll, 1800 people were asked about their preferred mode of travel from Boston to New York. The circle graph below shows the results of the poll. Which of the following is closest to the number of people polled who preferred to travel by bus?



- 375
- 475
- 625
- 725

15. There are 48 newborn girls in a hospital nursery. For every 3 girls there are 2 boys. How many newborn boys are in the nursery?

- 72
- 48
- 32
- 24

16. Which of the following is true?

- $0.067 + 0.033 = 1$
- $0.66 + 0.44 = 1$
- $0.67 + 0.33 = 1$
- $0.67 + 0.303 = 1$

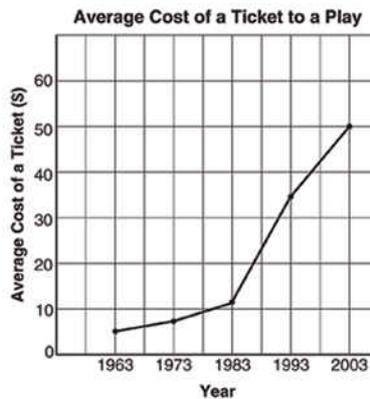
17. I am a number.

When you switch my ten thousand digit with my hundred digit, I become 804 963.

What number am I?

- 849 063
- 894 063
- 809 463
- 840 963

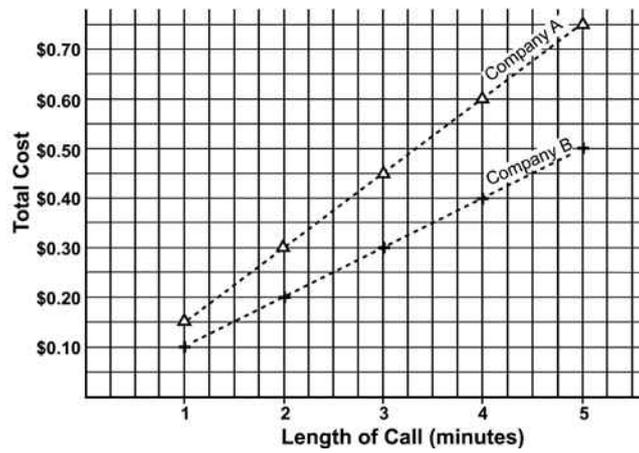
18. Using the information in the graph below, which statement is the **BEST** conclusion that can be reached?



- Prior to 1980, the average cost of a ticket was approximately \$15.
- The greatest rate of increase in the average cost of a ticket took place between 1983 and 1993.
- The average cost of a ticket in 2003 was approximately \$40.
- The smallest rate of increase in the average cost of a ticket took place between 1993 and 2003.

Use the following information to answer questions 19 to 20.

The graph below shows the cost that two long-distance telephone companies each charge for calls of various lengths (in minutes).



19. What is the cost of a 4-minute call using Company B?

\_\_\_\_\_

20. What is the cost per minute for a call using Company B?

\_\_\_\_\_

End of Section

21. Which of the following is both a multiple of 3 and a multiple of 7?

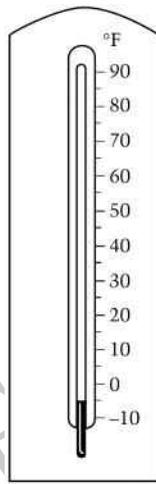
- 7007
- 8192
- 21 567
- 22 287
- 44 040

22. When is this statement **TRUE**?

***The opposite of a number is less than the original number.***

- This statement is never true.
- This statement is always true.
- This statement is true for positive numbers.
- This statement is true for negative numbers.

23. What temperature would be  $15^{\circ}\text{F}$  more than the temperature in the thermometer below?



- $-20^{\circ}\text{F}$
- $-10^{\circ}\text{F}$
- $10^{\circ}\text{F}$
- $15^{\circ}\text{F}$
- $20^{\circ}\text{F}$

24. What is 6050.287 rounded to the nearest ten?

- 6050
- 6100
- 6050.29
- 6050.3

25. Kirstie went skiing on the weekend.

When Kirstie started skiing at 7:00 am the temperature was  $-5^{\circ}\text{C}$ . By midday the temperature had risen  $9^{\circ}\text{C}$ .



What was the temperature at midday?

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

26. If 50% of a number is 20, what is 75% of the number?

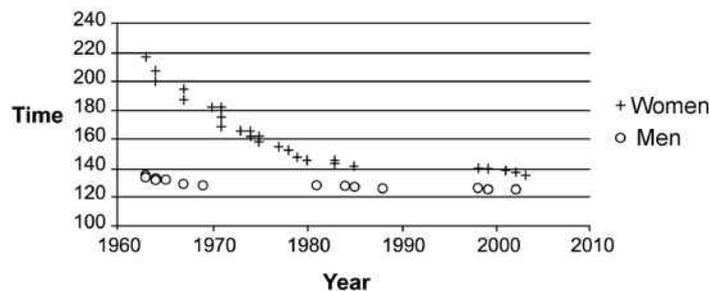
- 8
- 15
- 30
- 45

27. Which of the following is **NOT** a prime number?

- 13
- 17
- 33
- 47

28. The world record time (in minutes) in the marathon is plotted against the year in which the record was set for men and women separately.

Which of the following statements would be a valid conclusion from this graph?



- By the year 2010, the world record time for men will reach a plateau beyond which no improvement will be possible.
- We can expect the world record time for women to be lower than that for men sometime before the year 2010.
- The world record times for women show a greater rate of improvement (decreased more rapidly) than the world record times for men.
- The world record time for men has decreased more in the last twenty years than the world record time for women.

29. The percent scores for 5 tests are listed below.

45, 62, 76, 78, 99

Which statement about the data is **MOST** reasonable?

- The mean is close to 50
- The mean is close to 54
- The mean is close to 70
- The mean is close to 80

**30.** A 120-metre-long rope is cut into 3 pieces. The first piece of rope is twice as long as the second piece of rope. The third piece of rope is three times as long as the second piece of rope.

What is the length of the longest piece of rope?

- 20 metres
- 40 metres
- 60 metres
- 80 metres

**31.** What is 67 834 519 rounded to the nearest hundred thousand?

- 67 000 000
- 67 800 000
- 67 830 000
- 67 900 000

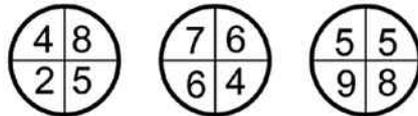
**32.** Andrea has to find the average age of the population of New Zealand. The **BEST** way for her to do this would be to:

- use data from the latest Census.
- ask 100 randomly selected adults.
- record the age from all of the death certificates for the previous year.
- obtain the birth date from all of the drivers licenses issued in New Zealand.

33. A journalist is interested in estimating the percentage of Northland residents who support the use of tax dollars to pay for a new civic centre in Whangarei. Which of the following would result in the **MOST** reliable estimate?

- Survey 100 randomly selected civic centre board members.
- Survey 100 randomly selected Auckland residents.
- Survey 100 randomly selected Whangarei residents.
- Survey 100 randomly selected Northland residents.

34. The following number disks show an increasing pattern for the sums of their diagonals. Which disk should be next in the increasing pattern?

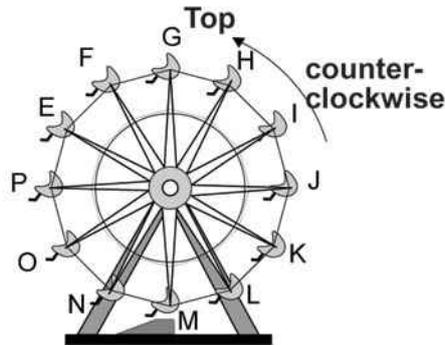


- 
- 
- 
- 

35. Which is equivalent to  $13 - 3^3$  ?

- 7
- 4
- 10
- 14

36. The spokes on the Ferris wheel are evenly spaced.  
 After  $2\frac{1}{4}$  complete turns how many degrees will car M have travelled?



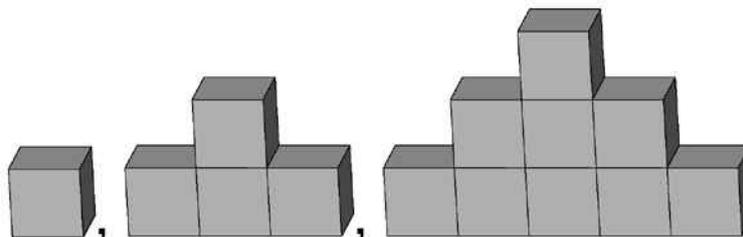
- 90°
- 225°
- 450°
- 810°

37. Mark reads 14 pages per hour and Jesse reads 8 pages per half an hour.  
 Which of the following statements compares these rates?

- Mark reads 6 pages per hour faster than Jesse.
- Mark reads 2 pages per hour faster than Jesse.
- Jesse reads 6 pages per hour faster than Mark.
- Jesse reads 2 pages per hour faster than Mark.

Use the following information to answer questions 38 to 39.

Jack is building a pattern of towers using blocks.  
 He has completed the first three towers in his pattern.



38. How many blocks will Jack need to complete the next tower?

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39. Write down the rule used.

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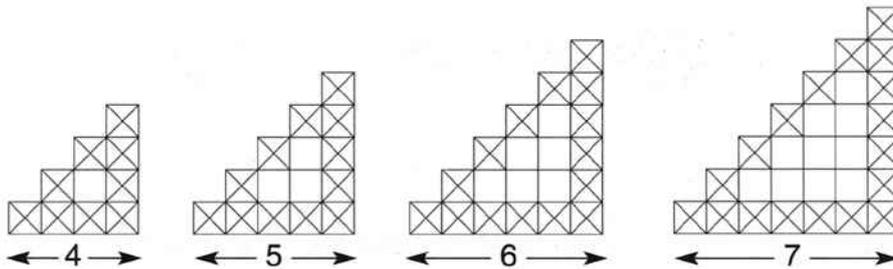
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End of Section

Use the following information to answer question 40..

Huan investigated Tapatoru patterns.



He recorded his observations in the table below.

Number of squares across the bottom (n)	Number of crosses (c)
4	9
5	12
6	15
7	18

40. Which one of the following rules can Huan use to work out the number of crosses (c) in a pattern with any number of squares (n) on the bottom row?

- $c = 3n$
- $c = n + 3$
- $c = n + 5$
- $c = 3n - 3$

End of Section

Use the following information to answer questions 41 to 43.

Suzanne was checking the weather conditions in the Australia Pacific region and found this chart in the newspaper.

Temperature (°C)			
Australia Pacific		Low	High
Adelaide .....	fine	5°	13°
Apia.....	cloudy	23°	31°
Brisbane.....	cloudy	6°	20°
Darwin .....	fine	20°	30°
Honolulu.....	fine	23°	32°
Melbourne .....	showers	6°	14°
Perth .....	drizzle	9°	20°
Rarotonga.....	showers	21°	24°
Suva .....	cloudy	18°	29°
Sydney.....	fine	9°	17°

41. What is the range of the low temperatures?

\_\_\_\_\_ °C

42. What is the mean of the high temperatures?

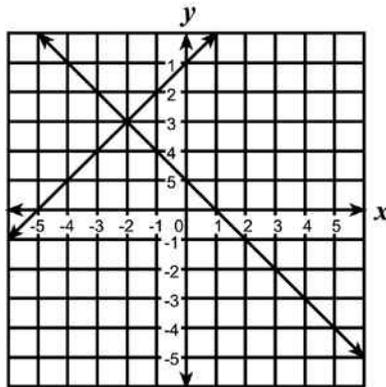
\_\_\_\_\_ °C

43. What is the median of the high temperatures?

\_\_\_\_\_ °C

44. This is a graph of a system of equations.

Which is **MOST** likely the solution to the system of equations shown?



- (0, 5)
- (1, 0)
- (3, -2)
- (-2, 3)

ADMINISTER ON SCREEN ONLY

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

- 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

#### Large Tablets (9" +)

- 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

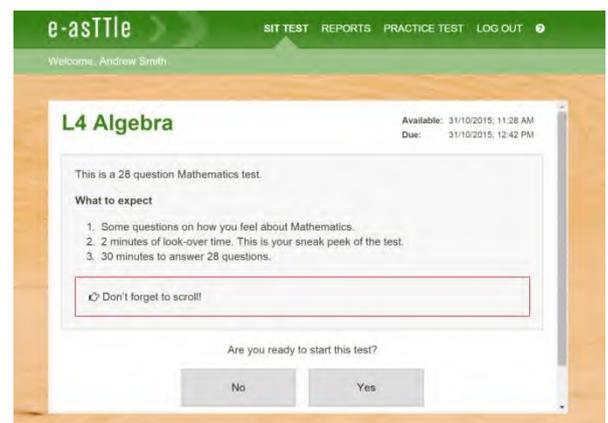
### 1. Check equipment

- 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.



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.  **INFO MISSING**  
[Click to reload](#)

#### 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.