

Summary

Test Identification

Name	2021 MY MATH 2.4
Date Created	16 May 2021
Date Modified	22 Jun 2021
Subject	Mathematics
Status	SCORED
Sequence Number	1132715
Total Test Time	59 minutes
Delivery Method	Onscreen

Curriculum Strand

Number Sense & Operations	13	Number Knowledge	11
Statistics	13	Algebra	10

Curriculum Level

3B	2	3P	2	3A	1
4B	12	4P	11	4A	8
5B	4	5P	4	5A	2

Cognitive Processing

Surface	25	Deep	21
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Slider Settings

Strands		Level	
Number Knowledge	Most	Level 3	Few
Number Sense & Operations	Most	Level 4	Most
Algebra	Most	Level 5	Few
Statistics	Most		

Marking Guide : 2021 MY MATH 2.4

Q.No	Marking Key
<u>1</u>	60 or sixty
<u>2</u>	2/5 or 3/5 'either answer acceptable for 1 mark'
<u>3</u>	a
<u>4</u>	709 'Accept 703 + 6'
<u>5</u>	b
<u>6</u>	a
<u>7</u>	c
<u>8</u>	a
<u>9</u>	b
<u>10</u>	c
<u>11</u>	d
<u>12</u>	c
<u>13</u>	d
<u>14</u>	d
<u>15</u>	c
<u>16</u>	a
<u>17</u>	b
<u>18</u>	a
<u>19</u>	b
<u>20</u>	a
<u>21</u>	b
<u>22</u>	c
<u>23</u>	a
<u>24</u>	a
<u>25</u>	144
<u>26</u>	Number= (position in sequence)squared or consecutive square numbers
<u>27</u>	a
<u>28</u>	Yes. She recorded Friday and Saturday"s earning incorrectly (Friday at \$19, and Sat at \$22) 'Both mistakes need to be identified for 1 mark'
<u>29</u>	\$88

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	Between Tuesday and Wednesday. Because it has the greatest increase of \$6, from \$8 to \$14 'Correct answer and equivalent explanation required for 1 mark'
31	d
32	c
33	b
34	c
35	c
36	d
37	a
38	b
39	b
40	Friends could be biased for/against boy-racers, or friends not representative of all girls, or small sample size or sensible equivalent
41	1/50
42	62 1/2 % or 62.5%
43	0.36
44	a
45	b
46	The temperature of the fluid at the start of the experiment.

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 like maths at school.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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02. I am good at maths.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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03. My teacher thinks I am good at maths.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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04. My family/whānau think I am good at maths.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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05. I enjoy doing maths in my own time (not at school).

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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06. I enjoy doing things in maths that I haven't tried before.

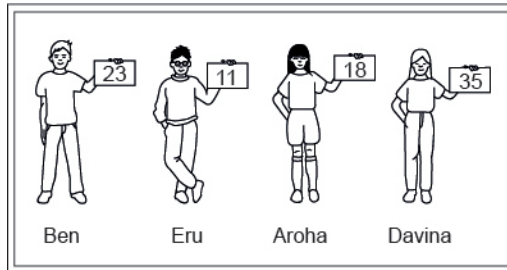
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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ADMINISTER ON SCREEN ONLY

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?

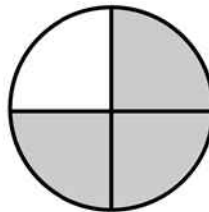


- Ben
- Eru
- Aroha
- Davina

P02. Complete this number pattern.

2, 4, _____, _____, 10

P03. What fraction of this circle is shaded?

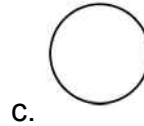
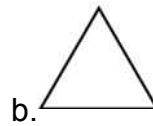




P04. Match the sentence with the correct shape.

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

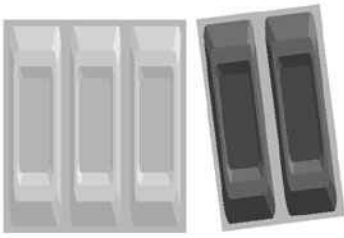
What is the value of the 6 in the following number(s) in question01.?

01.

321 462_____

End of Section

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



What fraction of the block has been removed?

03. This is part of an opinion scale. The opinions Agree, Strongly Agree, Undecided and Disagree are missing. Which opinion would be **BEST** located at **X**?



- Agree
- Strongly Agree
- Undecided
- Disagree

04.

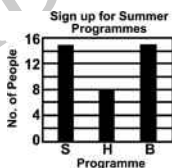
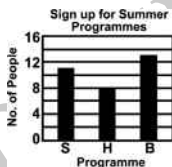
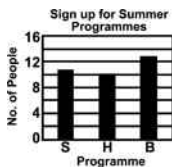
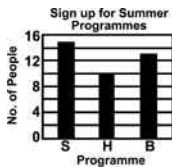
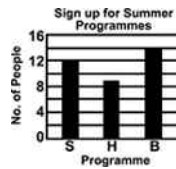
$$37 \times \blacksquare = 703$$

What is the value of $37 \times \blacksquare + 6$?

05. The town of Raymond offered swimming (S), hiking (H), and basketball (B) programmes to people last summer. The graph below shows the number of people who signed up in advance for each programme.

At the last minute, 2 people dropped out of the swimming programme, 1 person joined the hiking programme, and 1 person switched from basketball to swimming.

Which graph shows the correct information after these changes?



06. Tom weighs n kilograms, Paul's weight is $\frac{1}{3}$ of Tom's.
Which of the following expression represents Paul's weight?

- $\frac{1}{3}n$ kilograms
- $\frac{3}{n}$ kilograms
- $3n$ kilograms
- $n - 3$ kilograms

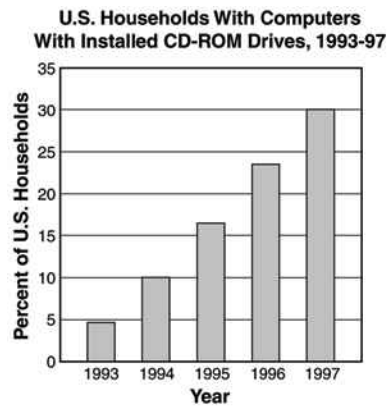
07. $4\frac{3}{4} - 2\frac{1}{2} =$

- $1\frac{1}{4}$
- $1\frac{3}{4}$
- $2\frac{1}{4}$
- $2\frac{3}{4}$

08. The All Blacks Rugby Team is having its photo taken. Four of the players line up from **shortest** to **tallest**.
Which is the correct order of their heights?

- 1.695 m, 1.78 m, 1.8 m, 1.94 m
- 1.8 m, 1.78 m, 1.94 m, 1.695 m
- 1.695 m, 1.8 m, 1.78 m, 1.94 m
- 1.8 m, 1.94 m, 1.78 m, 1.695 m

09. According to the data in the graph, which would be the **MOST** reasonable prediction for the percent of households with CD-ROMs in their computers in 1998?

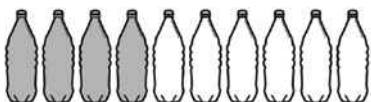
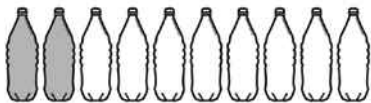
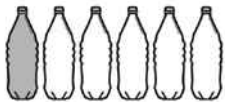
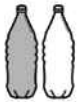
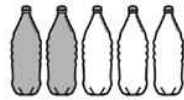


- 24%
- 36%
- 40%
- 44%

10. If each of the counting numbers from 1 through 10 is multiplied by 13, how many of the resulting numbers will be even?

- One
- Four
- Five
- Six
- Ten

11. A fraction of the group of bottles below is shaded.
Which of the following groups is shaded to show a fraction with the same value?



12. How many factors does a prime number have?

0

1

2

3

13. Maria had a collection of bracelets. Next week she will give her sister 18 of her bracelets, which is approximately $\frac{1}{3}$ of her collection.

Which of the following could be the number of bracelets in Maria's collection?

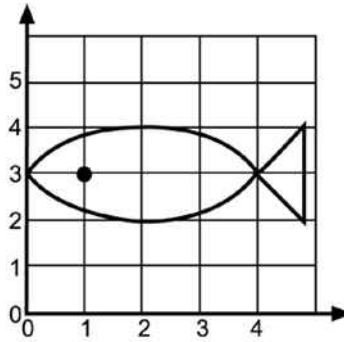
41

46

50

53

14. In the figure below, which **BEST** describes the location of the eye of the fish?

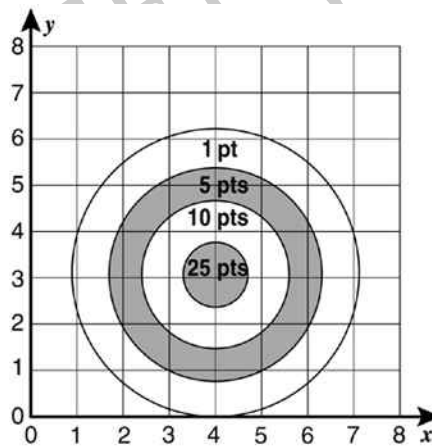


- (4, 1)
- (3, 1)
- (2, 4)
- (1, 3)

15. The figure below shows a coordinate grid placed over an archery target. Each ring of the target is labelled with the number of points the player will earn if an arrow lands in that ring.

Lyle's arrow landed at (3, 4).

How many points should he have earned with that arrow?



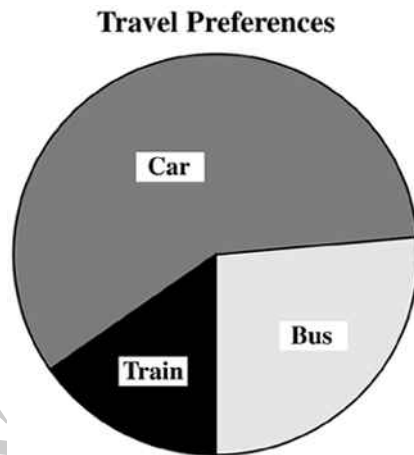
- 1
- 5
- 10
- 25

16. What value for z makes this equation **TRUE**?

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

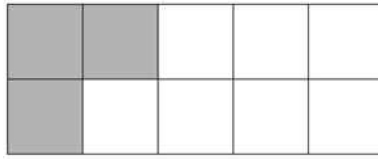
- 7
- 8
- 30
- 37

17. 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

18. In the figure, how many **more** small squares need to be shaded so that $\frac{4}{5}$ of the small squares are shaded?



- 5
- 4
- 3
- 2
- 1

19. What is the prime factorisation of 45?

- $2^3 \times 5$
- $3^2 \times 5$
- $5^2 \times 3$
- $5^2 \times 9$

20. Which word problem could be solved by using the equation $x + 6 = 15$?

- Moana has 6 more homework problems to solve. If she had a total of 15 problems to solve, how many has she already completed?
- Moana has completed 15 homework problems. She has 6 more to solve. How many problems did she have for homework?
- Moana needs to complete 15 more problems for her maths homework. She has completed a total of 6. How many problems will she complete for homework?
- Moana has 6 more problems to solve for homework than she had last night. If she had 15 problems to solve last night, how many problems does she have to solve tonight?

21. A school band charges a \$160 flat fee plus \$40 an hour to play. If the band charges \$320, for how long did they play?

- 2 hours
- 4 hours
- 5 hours
- 8 hours

22. Chad has a mean time for running the under 200-metre dash of 36.2 seconds. Which of the following statements **MUST** be **TRUE**?

- Chad runs the 200-metre dash in 0 to 36.2 seconds.
- Chad's best time in the 200-metre dash is 36.2 seconds.
- Chad runs the 200-metre dash, on average, in 36.2 seconds.
- Chad runs the 200-metre dash faster than 36.2 seconds most of the time.

23. Prabhu had \$5 to buy milk, bread and eggs. When he got to the shop he found that the prices were those shown below.

At which of these times would it make sense to use estimates rather than exact numbers?



\$1.50



\$1.29



\$1.44

- When Prabhu tried to decide whether \$5 was enough money.
- When the shopkeeper entered each amount in the cash register.
- When Prabhu was told how much he owed.
- When he received his change.

24. Chen had \$10 to buy a model plane, glue, and paint as shown below. At which of the following times could an estimate have been used instead of exact numbers?



- When Chen tried to decide whether or not he had enough money to buy the plane, glue, and paint
- When the clerk entered each amount into the cash register
- When the clerk told Chen how much he owed
- When Chen counted his change

Use the following information to answer questions 25 to 26.

Position in sequence	1	2	3	4	5
Number sequence	1	4	9	16	25

25. What is the twelfth number in this sequence?

26. Write a rule that links each number in the sequence.

End of Section

27. The United States Mint lists the standard weight of a United States dime as 2.268 grams.

What is the value of the 8 in that number?

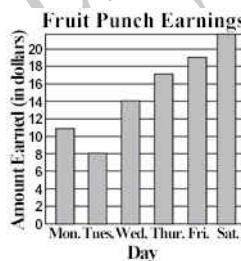
- Eight thousandths
- Eight hundredths
- Eight tenths
- Eight

Use the following information to answer questions 28 to 30

Logan and Donna sold fruit punch for six days in a row. The chart shows the amount they earned each day.

Donna made the bar graph to show the amounts of fruit punch earnings for the six days.

Day	Amount Earned
Mon.	\$11
Tues.	\$ 8
Wed.	\$14
Thur.	\$17
Fri.	\$18
Sat.	\$20



28. Did Donna make any mistakes in the graph?

If your answer is yes, explain any mistakes she made.

29. How much did Logan and Donna earn altogether in all six days?

30. Between which two days in a row did the amount of money earned **increase** by the greatest amount?

Explain how you got your answer.

End of Section

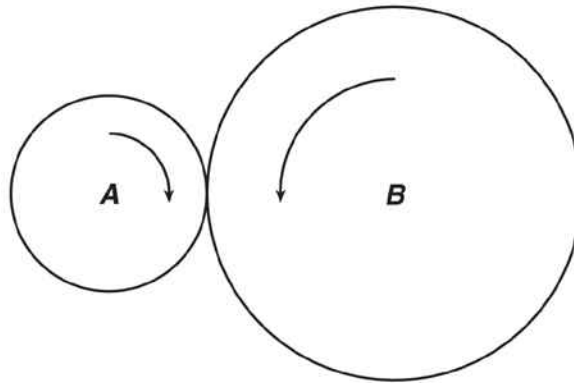
31. In which list are the numbers ordered from greatest to least?

- 0.233, 0.3, 0.32, 0.332
- 0.3, 0.32, 0.332, 0.233
- 0.32, 0.233, 0.332, 0.3
- 0.332, 0.32, 0.3, 0.233

32. The distance from the classroom door to the drinking fountain is 16.4682 m. Ana, Carlos, Donna and Fong measure this distance. Who measured the distance **MOST** accurately?

- Ana 16 m
- Carlos 16.5 m
- Donna 16.47 m
- Fong 16.46 m

33. When wheel *B* turns 2 revolutions, wheel *A* turns 5 revolutions. When wheel *A* turns 40 revolutions, how many revolutions does wheel *B* turn?



- 4
- 16
- 80
- 100

34. The five day forecast for the South Pole lists the low temperatures as -24° , -28° , -29° , -25° and -30° .

Which choice shows the temperatures in order from lowest to highest?

- -24° , -25° , -28° , -29° , -30°
- -30° , -28° , -29° , -25° , -24°
- -30° , -29° , -28° , -25° , -24°
- -30° , -29° , -28° , -24° , -25°

35. Gary had a very heavy school bag. He wanted to investigate if his bag was a lot heavier than others at his school.



His best way to collect a sample of suitable data would be:

- Weigh all the heavy school bags from the class.
- Weigh all the heavy school bags from the school.
- Weigh a random sample of school bags from the school.
- Weigh a random sample of school bags from the class.

36. Patrice and Tom need to report the results of a survey regarding the favourite snack food of the students at Milton High School.

How could the experiment be done to produce a random sampling of 100 students?

- Ask the students as they get off the school buses.
- Ask the opinion of all the teachers at the school.
- Ask all the students who are in the school cafeteria during one day.
- Ask every 20th student on the school roll until 100 students have been asked.

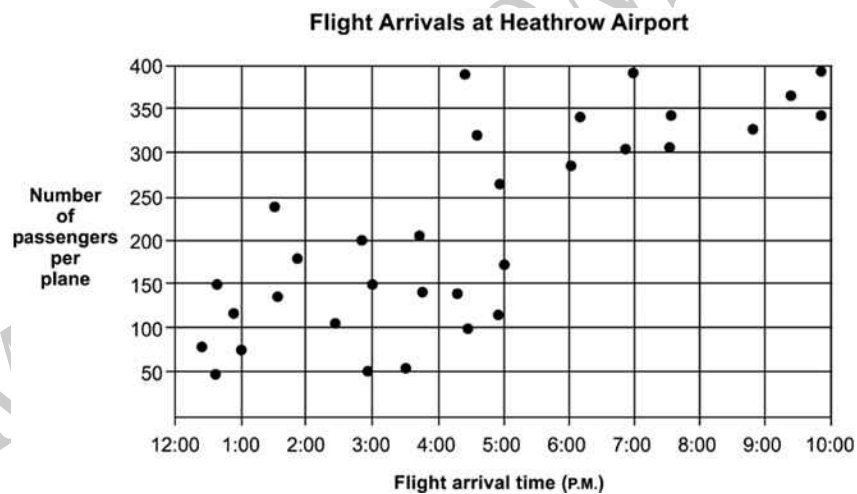
37. A store is having a '20% off' sale. The normal price of a hi-fi stereo system is \$1250. What is the price of the hi-fi stereo system after the 20% discount is applied?



- \$1000
- \$1050
- \$1230
- \$1500

Use the following information to answer question 38..

The number of passengers on each plane landing at an airport is recorded and shown below.



38. The scatter plot shows that

- fewer planes land in the afternoon than in the evening.
- there are more passengers per plane in the evening than in the afternoon.
- more planes land in the evening than in the afternoon.
- there are more passengers per plane in the afternoon than in the evening.

39. The table below shows the number of blocks Susan walked each day last week. What was the mean (average) number of blocks she walked each day?

Mon.	Tues.	Wed.	Thur.	Fri.
21	18	15	18	13

- 15
- 17
- 18
- 21


40. Jacqui surveyed her friends as part of her investigation into what girls think about boy-racers.

What is one possible source of error in her survey?

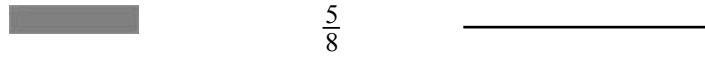
Use the following information to answer questions 41 to 43.

Complete each question to show equivalence.

(Do not fill in the shaded boxes.)

	Decimal	Fraction	Percentage
41.	0.02	_____	

42.



43.



End of Section

44. A new grocery store is having a grand opening celebration. Every third customer will receive a rose, and every fifth customer will receive a gift certificate.

How many of the first 100 customers will receive both a rose and a gift certificate?

- 6
- 10
- 16
- 20

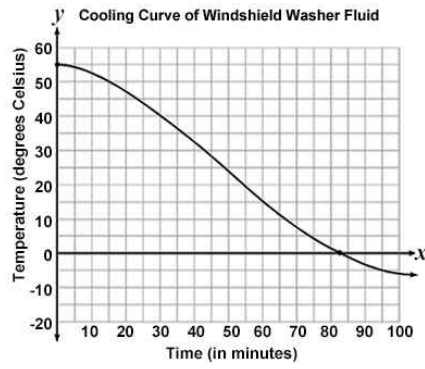
45. What is the next term of the quadratic pattern shown below?

-4, -4, -2, 2, 8, 16, . . .

- 20
- 26
- 38
- 46

Use the following information to answer question 46.

As part of a science experiment, Bailey is cooling in her freezer a cup of windshield washer fluid from her car. The windshield washer fluid freezes at -10° Celsius. The temperature of the washer fluid is shown on the graph below.



46. Explain what the y -intercept represents in the context of this experiment.

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

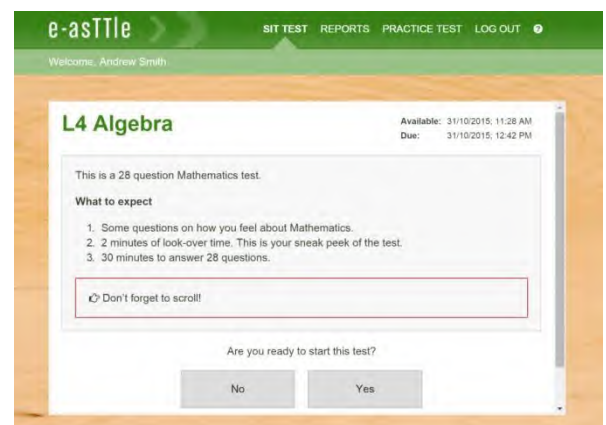
1. Check equipment

- 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.