

# CSSE Mock Paper 3 Maths



First Name: .....

Last Name: .....

Primary School: .....

Date of Birth: .....

Today's Date: .....

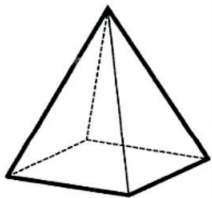
**DO NOT OPEN THIS PAPER UNTIL INSTRUCTED TO DO SO.**

# 11 Plus Essex CSSE – Maths

## Read the instructions carefully.

1. Do not open this booklet until you are told to do so.
2. You may work the questions out in your head, or by working out on the white area around the question.
3. Work as quickly and carefully as you can.
4. Make any alterations to your answers **clearly**.  
You will not lose marks for crossing out.
5. You will have **60 minutes** to do this test. If you find you cannot do a question, do not waste time on it, but go on to the next one.
6. Once the test has begun, you should not ask about questions in the test.
7. The use of electronic calculators of any description is **NOT** permitted.

| NOT TO BE FILLED IN BY PUPIL |       |   |
|------------------------------|-------|---|
| PAGE                         | SCORE |   |
|                              | R     | W |
| 1 (6)                        |       |   |
| 2 (5)                        |       |   |
| 3 (9)                        |       |   |
| 4 (4)                        |       |   |
| 5 (4)                        |       |   |
| 6 (5)                        |       |   |
| 7 (5)                        |       |   |
| 8 (7)                        |       |   |
| 9 (5)                        |       |   |
| 10 (7)                       |       |   |
| 11 (3)                       |       |   |
| TOTAL (60)                   |       |   |
| INITIALS OF MARKER(S)        |       |   |

| Question (and working space)                                                                                                                                                         | ANSWER          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| In the questions below, fill in the box to make the calculations correct.                                                                                                            |                 |
| <p>1.</p> <p>(a) <math>(26 \times 3) + \boxed{\phantom{000}} = 60 \div 0.6</math></p>                                                                                                | Fill in the box |
| <p>(b) <math>\frac{5}{6} + \frac{2}{3} = \boxed{\phantom{000}}</math></p>                                                                                                            | Fill in the box |
| <p>(c) <math>9,021 - \boxed{\phantom{000}} = 8,645</math></p>                                                                                                                        | Fill in the box |
| <p>(d) <math>\frac{1}{2} + \frac{2}{8} + \frac{3}{16} = \boxed{\phantom{000}}</math></p>                                                                                             | Fill in the box |
| <p>(e) <math>(12 \times 9) \div (\boxed{\phantom{000}} \times 3) = 6</math></p>                                                                                                      | Fill in the box |
| <p>2. The diagram shows a square-based pyramid.</p>  <p>How many edges does the pyramid have?</p> |                 |

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(6)

R  
W

| Question (and working space)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ANSWER                 |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------|------------------------|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|
| 3. What is the product of 12 and 8.5?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 4. A headteacher is arranging for the children to go to the theatre. They will hire minibuses to take the children to the theatre. Each bus takes 16 children. There are 150 children in total. How many buses will the school need to take all the children to the theatre?                                                                                                                                                                                                                                                     |                        |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 5. Calculate $23.6 + 14.9 =$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 6. Jack thinks of a number. When he multiplies it by 17, he gets 153. What was the original number?                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| <p>7. Use the graph below to answer the following questions.</p> <div data-bbox="181 1167 1256 1807"> <p>A graph to show average time to run 1km</p> <table border="1"> <caption>Data points from the graph</caption> <thead> <tr> <th>Week</th> <th>Average Time (minutes)</th> </tr> </thead> <tbody> <tr><td>1</td><td>7.2</td></tr> <tr><td>2</td><td>7.0</td></tr> <tr><td>3</td><td>6.8</td></tr> <tr><td>4</td><td>6.6</td></tr> <tr><td>5</td><td>6.8</td></tr> <tr><td>6</td><td>6.1</td></tr> </tbody> </table> </div> |                        | Week | Average Time (minutes) | 1 | 7.2 | 2 | 7.0 | 3 | 6.8 | 4 | 6.6 | 5 | 6.8 | 6 | 6.1 |
| Week                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Average Time (minutes) |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7.2                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7.0                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.8                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.6                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.8                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 6.1                    |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |
| (a) What was the average running time in week 4?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>..... minutes</p>   |      |                        |   |     |   |     |   |     |   |     |   |     |   |     |

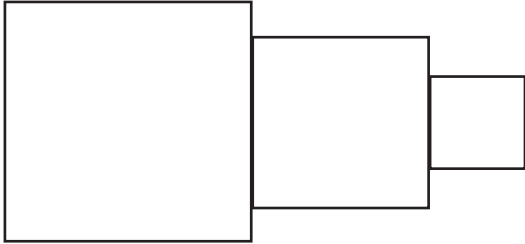
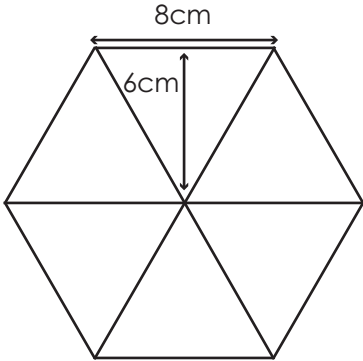
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| Question (and working space)                                                                                                                                          | ANSWER           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>(b)</b> How many weeks had an average time less than 6.7 minutes?                                                                                                  | .....<br>weeks   |
| <b>(c)</b> The graph shows a trend of the average running time decreasing each week. Which week is this not the case?                                                 |                  |
| <b>(d)</b> Which two weeks had the same average running time?                                                                                                         |                  |
| <b>(e)</b> What is the difference in average time from week 1 to week 6?                                                                                              | .....<br>minutes |
| <b>8.</b> Work out the original numbers.                                                                                                                              |                  |
| <b>(a)</b> Layla thinks of a number. When she subtracts 28 from it, she gets 65. What was the original number?                                                        |                  |
| <b>(b)</b> Amir thinks of a number. When he divides it by 6, he gets 14. What was the original number?                                                                |                  |
| <b>(c)</b> Sofia thinks of a number. She multiplies it by 4, then adds 19. Her final answer is 75. What was the original number?                                      |                  |
| <b>9.</b> $(4X)^3 = 512$<br><br>What is the value of X?                                                                                                               |                  |
| <b>10.</b> Jane is watching birds play in her garden. She noted that 3 out of 7 were pigeons. She recorded 42 birds in total.<br><br>How many birds were not pigeons? |                  |

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| Question (and working space)                                                                                                                                                                                                                                                                                                                            | ANSWER                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p><b>11.</b> A square of area <math>49\text{cm}^2</math>, a square of perimeter <math>20\text{cm}</math> and a square of area <math>9\text{cm}^2</math> are positioned next to each other, as shown below.</p>  <p>What is the perimeter of the new shape formed?</p> | <p>.....cm</p>             |
| <p><b>12.</b> What number is 7 less than half of 7 million?</p>                                                                                                                                                                                                                                                                                         |                            |
| <p><b>13.</b> What is the product of the first three prime numbers?</p>                                                                                                                                                                                                                                                                                 |                            |
| <p><b>14.</b> The hexagon is made up of 6 identical triangles.</p>  <p>What is the area of the hexagon?</p>                                                                                                                                                          | <p>.....cm<sup>2</sup></p> |

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| Question (and working space)                                                                                                                           | ANSWER                             |    |    |   |   |    |   |  |   |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----|----|---|---|----|---|--|---|--|
| 15. It takes 900cm <sup>3</sup> of fuel to travel 15km.                                                                                                |                                    |    |    |   |   |    |   |  |   |  |
| (a) How far can the car travel on 3,000cm <sup>3</sup> of petrol?                                                                                      | <div>.....</div> <div>km</div>     |    |    |   |   |    |   |  |   |  |
| (b) How much fuel in litres is needed to travel 90km?                                                                                                  | <div>.....</div> <div>litres</div> |    |    |   |   |    |   |  |   |  |
| 16. In a number square, each row, column and diagonal must add up to the same total. Identify the number that should be in place of the question mark. |                                    |    |    |   |   |    |   |  |   |  |
| (a) <div><table><tr><td>13</td><td>6</td><td>11</td></tr><tr><td>8</td><td></td><td></td></tr><tr><td>9</td><td></td><td>?</td></tr></table></div>     | 13                                 | 6  | 11 | 8 |   |    | 9 |  | ? |  |
| 13                                                                                                                                                     | 6                                  | 11 |    |   |   |    |   |  |   |  |
| 8                                                                                                                                                      |                                    |    |    |   |   |    |   |  |   |  |
| 9                                                                                                                                                      |                                    | ?  |    |   |   |    |   |  |   |  |
| (b) <div><table><tr><td>11</td><td></td><td></td></tr><tr><td>6</td><td>?</td><td>10</td></tr><tr><td>7</td><td></td><td>5</td></tr></table></div>     | 11                                 |    |    | 6 | ? | 10 | 7 |  | 5 |  |
| 11                                                                                                                                                     |                                    |    |    |   |   |    |   |  |   |  |
| 6                                                                                                                                                      | ?                                  | 10 |    |   |   |    |   |  |   |  |
| 7                                                                                                                                                      |                                    | 5  |    |   |   |    |   |  |   |  |

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| Question (and working space)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ANSWER  |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------------------------|---------|---------|--|--|--|---------|---------|---------|---------|----------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|---------|-------|-------|-------|-------|---------------|-------|-------|-------|-------|
| <p>17. A and B are whole numbers.<br/>A rounded to the nearest 10 gives 470.<br/>B rounded to the nearest 10 gives 260.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>(a) What is the largest possible value of A?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>(b) What is the smallest possible value of B?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>(c) What is the largest possible value of A + B?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>(d) What is the smallest possible value of A – B?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>18. This is a coach timetable.</p> <table border="1"> <thead> <tr> <th colspan="5">Explore Coaches – Daily Timetable (Monday – Friday)</th> </tr> <tr> <th></th> <th>Coach A</th> <th>Coach B</th> <th>Coach C</th> <th>Coach D</th> </tr> </thead> <tbody> <tr> <td>Parkside</td> <td>08:15</td> <td>09:30</td> <td>10:45</td> <td>11:05</td> </tr> <tr> <td>Riverview</td> <td>08:45</td> <td>10:00</td> <td>11:15</td> <td>11:37</td> </tr> <tr> <td>Hilltop</td> <td>09:10</td> <td>10:30</td> <td>11:40</td> <td>12:15</td> </tr> <tr> <td>Market Square</td> <td>09:45</td> <td>11:05</td> <td>12:20</td> <td>12:56</td> </tr> </tbody> </table> |         | Explore Coaches – Daily Timetable (Monday – Friday) |         |         |  |  |  | Coach A | Coach B | Coach C | Coach D | Parkside | 08:15 | 09:30 | 10:45 | 11:05 | Riverview | 08:45 | 10:00 | 11:15 | 11:37 | Hilltop | 09:10 | 10:30 | 11:40 | 12:15 | Market Square | 09:45 | 11:05 | 12:20 | 12:56 |
| Explore Coaches – Daily Timetable (Monday – Friday)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Coach A | Coach B                                             | Coach C | Coach D |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| Parkside                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 08:15   | 09:30                                               | 10:45   | 11:05   |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| Riverview                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 08:45   | 10:00                                               | 11:15   | 11:37   |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| Hilltop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 09:10   | 10:30                                               | 11:40   | 12:15   |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| Market Square                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 09:45   | 11:05                                               | 12:20   | 12:56   |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |
| <p>(a) Liam wants to travel from Riverview to Market Square in the shortest possible time. Which coach should he take?</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |                                                     |         |         |  |  |  |         |         |         |         |          |       |       |       |       |           |       |       |       |       |         |       |       |       |       |               |       |       |       |       |

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| Question (and working space)                                                                                                             |  | ANSWER |
|------------------------------------------------------------------------------------------------------------------------------------------|--|--------|
| (b) If Coach D is delayed at Parkside by 7 minutes and delayed at Riverview by a further 6 minutes, what time will it arrive at Hilltop? |  |        |
| (c) How long does Coach C take to travel from Parkside to Market Square?                                                                 |  |        |
| 19. Amira completes a spelling test once a week.<br><br>Her average score over 5 weeks is 16.                                            |  |        |
| (a) What is the total of all her scores from the 5 weeks?                                                                                |  |        |
| (b) In week 6, she scores 10. What is her new average score over 6 weeks?                                                                |  |        |
| (c) If Amira wants her average after 7 weeks to be 17, what must she score in Week 7?                                                    |  |        |

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| Question (and working space)                                                                                                                                                                                                                                                                                                                                                           | ANSWER   |         |          |         |         |       |          |       |          |        |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|----------|---------|---------|-------|----------|-------|----------|--------|--|
| <p>26. A security key pad displays these digits:</p> <table><tr><td>2</td><td>4</td></tr><tr><td>6</td><td>8</td></tr></table> <p>A two digit code is created using any two of these digits. For example, 24 or 82.</p>                                                                                                                                                                | 2        | 4       | 6        | 8       |         |       |          |       |          |        |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                      | 4        |         |          |         |         |       |          |       |          |        |  |
| 6                                                                                                                                                                                                                                                                                                                                                                                      | 8        |         |          |         |         |       |          |       |          |        |  |
| <p>(a) How many codes are possible if the same digit can be used twice?</p>                                                                                                                                                                                                                                                                                                            |          |         |          |         |         |       |          |       |          |        |  |
| <p>(b) How many codes are possible if the same digit cannot be used twice?</p>                                                                                                                                                                                                                                                                                                         |          |         |          |         |         |       |          |       |          |        |  |
| <p>(c) Another security key pad has this screen:</p> <table><tr><td>A</td><td>B</td><td>C</td></tr><tr><td>2</td><td>3</td><td>4</td></tr><tr><td>5</td><td>6</td><td>7</td></tr></table> <p>If a code on this screen requires a letter followed by a single digit number, how many codes are possible?</p>                                                                            | A        | B       | C        | 2       | 3       | 4     | 5        | 6     | 7        |        |  |
| A                                                                                                                                                                                                                                                                                                                                                                                      | B        | C       |          |         |         |       |          |       |          |        |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                      | 3        | 4       |          |         |         |       |          |       |          |        |  |
| 5                                                                                                                                                                                                                                                                                                                                                                                      | 6        | 7       |          |         |         |       |          |       |          |        |  |
| <p>27. Fahima has twenty-seven 50 pence pieces. How many 10-pence pieces does Fahima need to increase her money to £15?</p>                                                                                                                                                                                                                                                            |          |         |          |         |         |       |          |       |          |        |  |
| <p>28. Five bakers each baked a tray of cupcakes. Their baking times in minutes (m) and / or seconds (s) are shown in the table below.</p> <table><tr><td>Baker 1</td><td>Baker 2</td><td>Baker 3</td><td>Baker 4</td><td>Baker 5</td></tr><tr><td>1.5 m</td><td>1 m 47 s</td><td>109 s</td><td>1 m 36 s</td><td>1.25 m</td></tr></table> <p>Who bakes their cupcakes the fastest?</p> | Baker 1  | Baker 2 | Baker 3  | Baker 4 | Baker 5 | 1.5 m | 1 m 47 s | 109 s | 1 m 36 s | 1.25 m |  |
| Baker 1                                                                                                                                                                                                                                                                                                                                                                                | Baker 2  | Baker 3 | Baker 4  | Baker 5 |         |       |          |       |          |        |  |
| 1.5 m                                                                                                                                                                                                                                                                                                                                                                                  | 1 m 47 s | 109 s   | 1 m 36 s | 1.25 m  |         |       |          |       |          |        |  |

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| Question (and working space)                                                                                                                                                                             | ANSWER           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>29.</b> Complete the input machines.                                                                                                                                                                  |                  |
| <b>(a)</b><br>Input → <span style="border: 1px solid black; padding: 2px 10px;"><math>\times 6</math></span> → <span style="border: 1px solid black; padding: 2px 10px;"><math>+ 42</math></span> → 564  | Input =<br>..... |
| <b>(b)</b><br>Input → <span style="border: 1px solid black; padding: 2px 10px;"><math>\times 4</math></span> → <span style="border: 1px solid black; padding: 2px 10px;"><math>\div 3</math></span> → 32 | Input =<br>..... |
| <b>(c)</b><br>Input → <span style="border: 1px solid black; padding: 2px 10px;">cubed</span> → <span style="border: 1px solid black; padding: 2px 10px;"><math>+ 156</math></span> → 220                 | Input =<br>..... |
| <b>(d)</b><br>Input → <span style="border: 1px solid black; padding: 2px 10px;"><math>\div 30</math></span> → <span style="border: 1px solid black; padding: 2px 10px;">squared</span> → 100             | Input =<br>..... |
| <b>30.</b> What is 247,657 rounded to the nearest 100?                                                                                                                                                   |                  |
| <b>31.</b> A plane arrived at its destination at 16:34 after a flight time of 5 hours and 45 minutes. At what time did the plane start its journey?                                                      |                  |
| <b>32.</b> What number must replace the question mark to make the statement true?<br><br>$40 \times ? = 30$                                                                                              |                  |

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| Question (and working space)                                                                                                            | ANSWER |
|-----------------------------------------------------------------------------------------------------------------------------------------|--------|
| <p><b>33.</b> 10 friends share 5 pizzas between them. If each pizza is cut into 6 pieces, how many pieces does each friend receive?</p> |        |
| <p><b>34.</b> What number comes next in the sequence?</p> <p>4, 6, 10, 18, 34, ?</p>                                                    |        |
| <p><b>35.</b> If <math>\frac{3}{5}</math> of a number is equal to 24, what is half of the number?</p>                                   |        |

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**END OF TEST**

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## Working Out Space

[illegible]

## Working Out Space

[illegible]

