Name: Teacher: Class:

**7.1 Numbers and the Number System**

|  |  |  |
| --- | --- | --- |
| **You need to learn to:** | **Pre-learning assessment** | **Post-learning assessment** |
| 1. Recall prime numbers up to 50 | *1,2,3* | *1,2,3* |
| 1. Know how to test if a number up to 150 is prime | *1,2,3* | *1,2,3* |
| 1. Know the meaning of ‘highest common factor’ and ‘lowest common multiple’ | *1,2,3* | *1,2,3* |
| 1. Recognise when a problem involves using the highest common factor of two numbers | *1,2,3* | *1,2,3* |
| 1. Recognise when a problem involves using the lowest common multiple of two numbers | *1,2,3* | *1,2,3* |
| 1. Understand the use of notation for powers | *1,2,3* | *1,2,3* |
| 1. Know the meaning of the square root symbol (√) | *1,2,3* | *1,2,3* |
| 1. Use a scientific calculator to calculate powers and roots | *1,2,3* | *1,2,3* |
| 1. Make the connection between squares and square roots (and cubes and cube roots) | *1,2,3* | *1,2,3* |
| 1. Identify the first 10 triangular numbers | *1,2,3* | *1,2,3* |
| 1. Recall the first 15 square numbers | *1,2,3* | *1,2,3* |
| 1. Recall the first 5 cube numbers | *1,2,3* | *1,2,3* |
| 1. Use linear number patterns to solve problems | *1,2,3* | *1,2,3* |

**Assessments**

|  |  |  |
| --- | --- | --- |
| Assessment | What score **I think** I’ll get out of 30  (complete **before** assessment) | What score **I did** get out of 30  (complete **after** assessment) |
| Diagnosis assessment | /30 = % | /30 = % |
| Test assessment | /30 = % | /30 = % |

Name: Teacher: Class:

**7.1 Numbers and the Number System**

|  |  |  |
| --- | --- | --- |
| **You need to learn to:** | **Pre-learning assessment** | **Post-learning assessment** |
| 1. Recall prime numbers up to 50 | *1,2,3* | *1,2,3* |
| 1. Know how to test if a number up to 150 is prime | *1,2,3* | *1,2,3* |
| 1. Know the meaning of ‘highest common factor’ and ‘lowest common multiple’ | *1,2,3* | *1,2,3* |
| 1. Recognise when a problem involves using the highest common factor of two numbers | *1,2,3* | *1,2,3* |
| 1. Recognise when a problem involves using the lowest common multiple of two numbers | *1,2,3* | *1,2,3* |
| 1. Understand the use of notation for powers | *1,2,3* | *1,2,3* |
| 1. Know the meaning of the square root symbol (√) | *1,2,3* | *1,2,3* |
| 1. Use a scientific calculator to calculate powers and roots | *1,2,3* | *1,2,3* |
| 1. Make the connection between squares and square roots (and cubes and cube roots) | *1,2,3* | *1,2,3* |
| 1. Identify the first 10 triangular numbers | *1,2,3* | *1,2,3* |
| 1. Recall the first 15 square numbers | *1,2,3* | *1,2,3* |
| 1. Recall the first 5 cube numbers | *1,2,3* | *1,2,3* |
| 1. Use linear number patterns to solve problems | *1,2,3* | *1,2,3* |

**Assessments**

|  |  |  |
| --- | --- | --- |
| Assessment | What score **I think** I’ll get out of 30  (complete **before** assessment) | What score **I did** get out of 30  (complete **after** assessment) |
| Diagnosis assessment | /30 = % | /30 = % |
| Test assessment | /30 = % | /30 = % |

**7.1 Numbers and the Number System** Date:

**Diagnosis (to be taken before the topic is taught)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Question n.o.** | **Question** | **Workings and answer** | Macintosh HD:private:var:folders:65:l364j7q962v4_xf3302b347w0000gn:T:TemporaryItems:imgres.jpg |
| 1 | Write down all the prime numbers between 30 and 40. |  | (2) |
| 2 | Is 127 prime?  Show all your working out. |  | (2) |
| 3 | What does Highest Common Factor mean?  What does Lowest Common Multiple mean? |  | (2) |
| 4 | Why would I use the HCF with fractions?  Simplify . |  | (2) |
| 5 | Why would I use LCM when adding fractions?  Add . |  | (3) |
| 6 | Write as a single power:   1. 3 x 3 x 3 x 3 2. 5 x 5 x 5 x 5 x 5 3. y x y x y x y x y x y   Write as a multiplication:   1. 45 2. 63 3. w5 |  | (6) |
| 7 | Estimate the value to each of these: |  | (3) |
| 8 | Write the buttons you would need to press on your calculator to work out each of the following calculations:   1. 4.43 2. 35 |  | (5) |
| 9 | 162 = 256  What is ?  What is the value of 53? |  | (2) |
| 10 | How would you explain how to calculate the next 2 triangular numbers?  1, 3, 6, 10, \_\_\_, \_\_\_\_ . |  | (3) |
| 11 | Which square numbers are missing from the first 15.  196 144 100 81 49 25 9 |  | (3) |
| 12 | Fill in the missing values:   1. 33 = 2. 53 = 3. 13 = 4. 23 = |  | (4) |
| 13 |  |  |  |

**7.1 Numbers and the Number System** Date:

**Test (to be taken after the topic is taught)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Question n.o.** | **Question** | **Workings and answer** | Macintosh HD:private:var:folders:65:l364j7q962v4_xf3302b347w0000gn:T:TemporaryItems:imgres.jpg |
| 1 | Write down all the prime numbers between 40 and 50. |  | (2) |
| 2 | Is 133 prime?  Show all your working out. |  | (2) |
| 3 | What does Highest Common Factor mean?  What does Lowest Common Multiple mean? |  | (2) |
| 4 | Why would I use the HCF with fractions?  Simplify . |  | (2) |
| 5 | Why would I use LCM when adding fractions?  Add . |  | (3) |
| 6 | Write as a single power:   1. 3 x 3 x 3 2. 5 x 5 x 5 x 5 x 5 x 5 x 5 3. y x y x y x y x y 4. Write as a multiplication: 5. 36 6. 74   w5 |  | (6) |
| 7 | Estimate the value to each of these: |  | (3) |
| 8 | Write the buttons you would need to press on your calculator to work out each of the following calculations:   1. 4.43 2. 35 |  | (5) |
| 9 | 232 = 529  What is ?  What is the value of 63? |  | (2) |
| 10 | How would you explain how to calculate the next 2 triangular numbers?  1, 3, 6, 10, 15, \_\_\_\_, \_\_\_\_\_\_ . |  | (3) |
| 11 | Which square numbers are missing from the first 15.  196 121 100 64 49 36 9 |  | (3) |
| 12 | Fill in the missing values:   1. 43 = 2. 23 = 3. 13 = 4. 53 = |  | (4) |
| 13 |  |  |  |