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 = % |

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**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 $\frac{12}{36}$. |  | (2) |
| 5 | Why would I use LCM when adding fractions?Add $\frac{1}{3}+\frac{2}{5}$. |  | (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:1. $\sqrt{60}$
2. $\sqrt{28}$
3. $\sqrt{78}$
 |  | (3) |
| 8 | Write the buttons you would need to press on your calculator to work out each of the following calculations:1. $\sqrt{576}$
2. $\sqrt{246.49}$
3. $\sqrt[3]{1728}$
4. 4.43
5. 35
 |  | (5) |
| 9 | 162 = 256What is $\sqrt{256}$?$$\sqrt[3]{125}=5$$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 $\frac{8}{32}$. |  | (2) |
| 5 | Why would I use LCM when adding fractions?Add $\frac{3}{5}+\frac{2}{3}$. |  | (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:1. $\sqrt{60}$
2. $\sqrt{28}$
3. $\sqrt{78}$
 |  | (3) |
| 8 | Write the buttons you would need to press on your calculator to work out each of the following calculations:1. $\sqrt{576}$
2. $\sqrt{246.49}$
3. $\sqrt[3]{1728}$
4. 4.43
5. 35
 |  | (5) |
| 9 | 232 = 529What is $\sqrt{529}$?$$\sqrt[3]{216}=6$$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 |  |  |  |