**I can recognise and use square and cube numbers**

1. Amy says, “4900 is a square number.” Is she correct? Explain your answer. Yes because 70 x 70 = 4900
2. Lauren has forgotten what a square number is. Can you explain using words. A square number is the product of a number multiplied by itself.
3. Toby thinks that the square of 13 is 134. Is he correct? Explain your answer. No. 13 x 13 = 169
4. Circle all the square numbers in the following list:

8,100 360 1,000 121 400 14,400

1. Year 5 are learning about cube numbers. Which number have they missed out from the sequence below?

1 8 27 64 125 216 343 512

1. Charley says, “A square number has to have an even number of factors.” Is this true always, sometimes or never? Explain. Never true because even though factors come in pairs, one pair of factors will be the same number. Eg. The factor pairs for 16 are 1x16, 2x8, 4x4. This gives three pairs of factors but an odd number of factors as we don’t count the 4 twice.
2. Nuala says, “216 is the cube number of 6.” Is she correct? Explain your answer.

Yes. 6x6x6=216

1. Last year, my age was a square number. Next year, it will be a cube number.
2. How old am I?

26

1. How long must I wait until my age is both a square number and a cube number? 38 years (64 – 26)
2. The answer to a cubed number is 125. What’s the root number?

5

**I can recognise and use square and cube numbers**

1. Amy says, “49 is a square number.” Is she correct? Explain your answer. Yes – 7x7 = 49
2. Lauren has forgotten what a square number is. Can you explain using words or diagrams.

A square number is the product of a number multiplied by itself.

1. Toby thinks that the square of 12 is 134. Is he correct? Explain your answer.

No – 12x12 = 144

1. Circle all the square numbers in the following list:

81 360 1000 121 400 144

1. Year 5 are learning about cube numbers. Which number have they missed out from the sequence below?

1 8 27 64 125

1. Nuala says, “216 is the cube number of 6.” Is she correct? Explain your answer. Yes – 6x6x6=216
2. Charley says, “A square number has to have an even number of factors.” Is this true always, sometimes or never? Explain.

Never true because even though factors come in pairs, one pair of factors will be the same number. Eg. The factor pairs for 16 are 1x16, 2x8, 4x4. This gives three pairs of factors but an odd number of factors as we don’t count the 4 twice.

1. Last year, my age was a square number. Next year, it will be a cube number.
2. How old am I? 26
3. How long must I wait until my age is both a square number and a cube number? 38 years (64 – 26)
4. The answer to a cubed number is 125. What’s the root number? 5

**I can recognise and use square and cube numbers**

1. Amy says, “16 is a square number.” Is she correct? Explain your answer. Yes – 4x4=16

Lauren has forgotten what a square number is. Can you explain using words or diagrams. A square number is the product of a number multiplied by itself.

1. Toby thinks that the square of 7 is 48. Is he correct? Explain your answer.

No – 7x7=49

1. Circle all the square numbers in the following list:

81 36 99 121 1000 25

1. Year 5 are learning about cube numbers. Which number have they missed out from the sequence below?

1 8 27 64 125

1. Nuala says, “27 is the cube number of 2.” Is she correct? Explain your answer. No – 2x2x2= 8
2. Charley says, “A square number has to have an even number of factors.” Is this true always, sometimes or never? Explain.

Never true because even though factors come in pairs, one pair of factors will be the same number. Eg. The factor pairs for 16 are 1x16, 2x8, 4x4. This gives three pairs of factors but an odd number of factors as we don’t count the 4 twice.

1. Last year, my age was a square number. I am older than 19 but younger than 32.
2. How old am I? 25
3. The answer to a cubed number is 27. What’s the root number? 3