

White

**Rose
Maths**

Year 5 - Autumn - Block 4

Multiplication & Division

Use 0 – 9 digit cards. Choose 2 cards and multiply the digits shown.

What is your number a multiple of?

Is it a multiple of more than one number?

Find all the numbers you can make using the digit cards.

Use the table to help.

	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

	0	1	2	3	4	5	6	7	8	9
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										

Always, Sometimes, Never

- The product of two even numbers is a multiple of an odd number.
- The product of two odd numbers is a multiple of an even number.

Eva's age is a multiple of 7 and is 3 less than a multiple of 8

She is younger than 40

How old is Eva?

Here is Annie's method for finding factor pairs of 36

1	36
2	18
3	12
4	9
5	X
6	6

When do you put a cross next to a number?

How many factors does 36 have?

Use Annie's method to find all the factors of 64

Always, Sometimes, Never

- An even number has an even amount of factors.
- An odd number has an odd amount of factors.

True or False?

The bigger the number, the more factors it has.

True or False?

- 1 is a factor of every number.
- 1 is a multiple of every number.
- 0 is a factor of every number.
- 0 is a multiple of every number.

I am thinking of two 2-digit numbers.

Both of the numbers have a digit total of six.

Their common factors are:

1, 2, 3, 4, 6, and 12

What are the numbers?

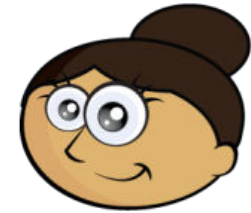
Find all the prime numbers between 10 and 100, sort them in the table below.

End in a 1	End in a 3	End in a 7	End in a 9

Why do no two-digit prime numbers end in an even digit?

Why do no two-digit prime numbers end in a 5?

Dora says all prime numbers have to be odd.



Her friend Amir says that means all odd numbers are prime, so 9, 27 and 45 are prime numbers.



Explain Amir's and Dora's mistakes and correct them.

Teddy says,



Factors come in pairs so all numbers must have an even number of factors.

Do you agree?

Explain your reasoning.

How many square numbers can you make by adding prime numbers together?

Here's one to get you started:

$$2 + 2 = 4$$

Whitney thinks that 4^2 is equal to 16

Do you agree?
Convince me.



Amir thinks that 6^2 is equal to 12

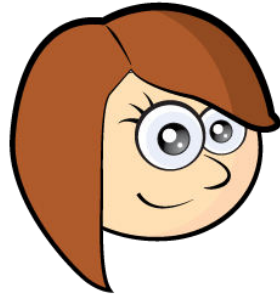
Do you agree?
Explain what you have noticed.



Always, Sometimes, Never

A square number has an even number of factors.

Rosie says,

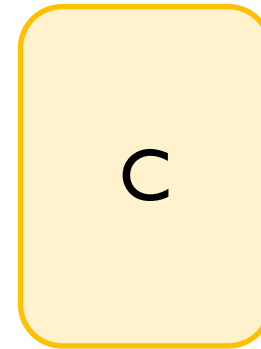
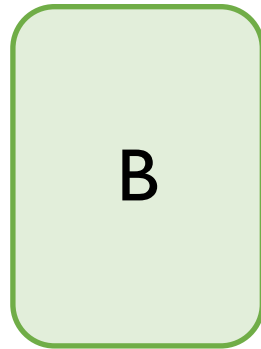
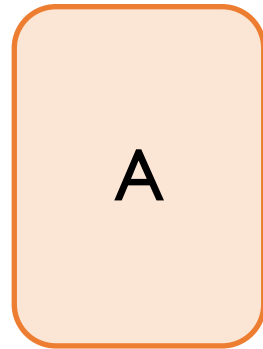


5^3 is equal to 15

Do you agree?

Explain your answer.

Here are 3 cards



On each card there is a cube number. Use these calculations to find each number.

$$A \times A = B$$

$$B + B - 3 = C$$

$$\text{Digit total of } C = A$$

Dora is thinking of a two-digit number that is both a square and a cube number.



What number is she thinking of?

Teddy's age is a cube number.

Next year his age will be a square number.

How old is he now?

The sum of a cube number and a square number is
150

What are the two numbers?

Rosie has £300 in her bank account.

Tommy has 100 times more than Rosie in his bank account.

How much more money does Tommy have than Rosie?

Whitney has £1,020 in her bank account.

Tommy has £120 in his bank account.

Whitney says,



I have ten times more money than you

Is Whitney correct? Explain your reasoning.

Jack is thinking of a 3-digit number.

When he multiplies his number by 100, the ten thousands and hundreds digit are the same.

The sum of the digits is 10

What number could Jack be thinking of?

Mo has £357,000 in his bank.

He divides the amount by 1,000 and takes that much money out of the bank.

Using the money he has taken out, he buys some furniture costing two hundred and sixty-nine pounds.

How much money does Mo have left from the money he took out?

Show your working out.

Here are the answers to some problems:

5,700

405

397

6,203

Can you write at least two questions for each answer involving dividing by 10, 100 or 1,000?

Tommy has answered a question.

Here is his working out.

$$600 \div 25$$
$$600 \div 2 = 300$$
$$300 \div 5 = 60$$
$$600 \div 25 = \underline{60}$$

Is he correct?

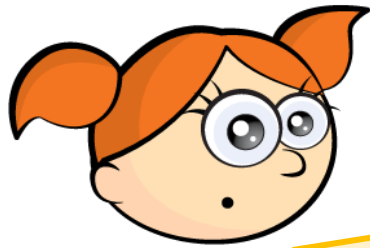
Explain your answer.

$$6 \times 7 = 42$$

Alex uses this multiplication fact to solve

$$420 \div 70 = \underline{\quad}$$

Alex says,



The answer is 60 because all of the numbers are 10 times bigger.

Do you agree with Alex?

Explain your answer.