Ordering decimals

Line the numbers up so that the decimals are in line.

Add extra zeroes to make each number have the same amount of digits to the right of the decimal point.

Eg. Order 2.3 3.2 2.33 2.03 3.02 from smallest to largest

2.30
3.20 (largest)
2.33
2.03 (smallest)
3.01

Answer: 2.03 2.3 2.33 3.03 3.2

Rounding rule

5 or more round up, less than 5 round down.

Rounding with decimal places

Eg. Round 0.372 to 2 decimal places.

In the number 0.372, the 7 is in the second decimal place. 0.372 rounded to two decimal places is 0.37, because the 2 tells us to round down.

Be careful with money - don't write £27.4, instead write £27.40

Year 8 foundation topic 1
Number

What careers would use these skills?

Rounding is important in finance, money is always written with two decimal places.

Decimal addition and subtraction

Line the numbers up as you would for column addition, make sure the decimal points are in line.

Include extra zeroes as place holders if that helps.

Eg.

$51 + 14.02 + 2.1$

```
51.00      Change
14.02      whole
+  2.10    number to
          decimal
67.12
```

Line up the decimal points

```
 76.3
-34.1
 42.2
```

BIDMAS An acronym for the order you should do calculations in.

BIDMAS stands for 'Brackets, Indices, Division, Multiplication, Addition and Subtraction'.

Indices are also known as 'powers' or 'orders'.

 Eg. $5^2 = 25$ where the 2 is the index/power
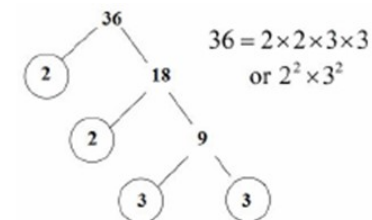
$6 + 3 \times 5 = 21$ not 45

Prime numbers

Prime numbers only have two factors, itself and 1.

2 is the only even prime number.

The first 10 prime numbers are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

Prime factor decomposition

Finding out which prime numbers multiply together to make the original number.

$36 = 2 \times 2 \times 3 \times 3$
or $2^2 \times 3^2$

Highest common factor (HCF)

The biggest number that divides exactly into two or more numbers.

Eg. The HCF of 6 and 9 is 3 because it is the biggest number that divides into 6 and 9 exactly.

Lowest common multiple (LCM)

The smallest number that is in the times tables of each of the numbers given.

Eg. The LCM of 3, 4 and 5 is 60 because it is the smallest number in the 3, 4 and 5 times tables .

Index notation

This is the use of powers.

Eg. $2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^6$

The index notation for

$2 \times 2 \times 3 \times 3 \times 5 \times 7 \times 7 \times 7$ is

$2^2 \times 3^2 \times 5 \times 7^3$