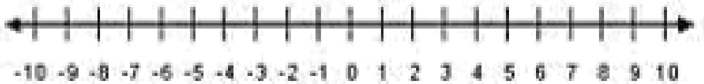
Numeracy4All Tips

Number



Percent - Stands for parts per 100

Percentages of an amount

10% Divide by 10	5% Half 10%	1% Divide by 100
20% Double 10%	**50%** Half 100%	**25%** Half 50%

Percentage increase or decrease

Increase add the percentage amount on (Inflation, interest, rise, etc.)

Decrease subtract the percentage amount (Sale, deflation, fall, depreciation, etc.)

Finding the percentage

Remember Percent is out of 100

E.g. There are 200 people in year 7 and 126 girls What percentage are girls?

Write as fraction ___ out of ___

The line in the fraction stands for divide.

$\frac{126}{200} \times 100 = 63\%$

What to put in a calculator?
126 ÷ 200 = 0.63
0.63 × 100 = 63%

Carried numbers

Borrowed numbers

Addition and subtraction

When adding and subtracting numbers remember to keep your numbers lined up.

```
  11
 369
+631
1000
```

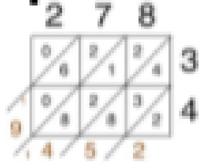
```
 ⁶7¹2
  5 6 −
  1 6
```

Multiplication 1

×	30	5
20	600	100
6	180	30

600 + 100 = 700
180 + 30 = 210
700 + 210 = 910

Multiplication 2



278 x 34 = 9,452

Division

360 ÷ 8 = 45

```
   0 4 5
8 | 3 ³6 ⁴0
```

3 ÷ 8 = 0 r 3
36 ÷ 8 = 4 r 4
40 ÷ 8 = 5

Carry remainders

When talking about money think about how a shop displays the price.

£1.4

£1.40

Ratio

Bart and Lisa share £35 in the ratio 3:4. How much money do they get each?

Ratio is in the order the names/objects appear in Question.

Bart : Lisa

3 : 4

| 5 | 5 | 5 | : | 5 | 5 | 5 | 5 |

35 ÷ 7 = £5

£15 : £20

Fractions of Amounts

Divide by the bottom, times by the top

$\frac{3}{5}$ of £35 is **£21**

35 ÷ 5 = 7
7 × 3 = 21

Bottom = Denominator
Top = Numerator

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Algebra Basics

Content

- A **variable** or an **unknown** is a letter used to represent a number, these can take any values.
- An **expression** is made up numbers and/or letters representing unknown values where there is no equals symbol. For example, $4a + 6$ or $a + b$.
- **Terms** are the separate parts of expressions. For example, in $5x + 3y - 4$, there are three terms $5x$, $+3y$ and -4
- **Coefficients** are the numbers in front of the variable, for example in $6x$ the coefficient is 6 and in $-7y^2$ it is -7.

To **simplify** an expression, you collect together all the terms that are alike. Remember, each term comes with the sign in front of it.

Examples:
Simplify the following

1) $x + x + x + x + x = 5x$

2) $5e - 2e + e = 4e$

3) $4x + 2y - x + 5y + 6 = 3x + 7y + 6$

4) $3x^2 + 5x + 2x^2 - 4x = 5x^2 + x$

5) $5 \times 4g = 20g$

6) $3b \times 4c = 12bc$

Linked Prior Topics
Times tables, addition and subtraction

Vocabulary
Variable, unknown, expression, term, coefficient, simplify

Linked Future Topics
Substitution, solving equations and formulae