

Y9 Maths Block 1 Number

BIDMAS

BIDMAS is the agreed order of operations

Brackets	B
Indices (powers)	I
Division	D
Multiplication	M
Addition	A
Subtraction	S

e.g.
 $(3+2)^2 \times 2 \div 2 + 4 - 1 =$
 $8(3+2)^2 \times 2 \div 2 + 4 - 1 =$
 $1 \ 5^2 \times 2 \div 2 + 4 - 1 =$
 $D \ 25 \times 2 \div 2 + 4 - 1 =$
 $M \ 25 \times 1 + 4 - 1 =$
 $A \ 25 + 4 - 1 =$
 $S \ 29 - 1$
 Answer: 28

Top Tip!

Multiplying by 0.1 is the same as dividing by 10
 Multiplying by 0.01 is the same as dividing by 100

Equality & Inequality

< less than
 > greater than
 = equal to
 $6 < x > 9$
 x is greater than 6 but less than 9

Ordering Decimals

- 1) Set up a table with a decimal point in the same place for each number
 - 2) Put in the numbers
 - 3) Fill in empty squares with zeroes
 - 4) Compare using first column on left
 - 5) If the digits are equal, move to the next column (you are comparing the place value)
- e.g. put 1.506, 1.56 and 0.8 in ascending order

Decimal Point	Tenths	Hundredths	Thousandths
1 .	5	0	6
1 .	5	6	0
0 .	8	0	0

= 0.8, 1.506, 1.56

Place Value

Always write numbers in lined up columns to keep their place values in line.

Millions	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths		
M	Hth	TTh	Th	H	T	O	.	t	h	th	tth

Rounding Decimal Places

Rounding to decimal places is exactly like rounding whole numbers - you just have more numbers (and therefore greater accuracy).

3.248

- 3 is the units digit.
- 2 is worth 2 tenths, and is the first decimal place.
- 4 is worth 4 hundredths, and is the second decimal place.
- 8 is worth 8 thousandths, and is the third decimal place.

You will sometimes see "decimal place" shortened to "d.p."

3.248 rounded to 1 d.p.
 3.248 → 3.2
 1st dp
 Look at the next digit 4 stays down - stay at 3.2

3.248 rounded to 2 d.p.
 3.248 → 3.25
 2nd dp
 Look at the next digit 8 rounds up - go to 3.25

Calculating with Negative Numbers

Adding and subtracting negative numbers:

e.g.
 $10 + -3 = 7$
 $10 - -9 = 19$
 $-9 + -3 = -12$
 $-7 - -3 = -4$

Multiplying and dividing negative numbers:

e.g.
 $7 \times -4 = -28$
 $-6 \times -4 = 24$
 $-35 \div 5 = -7$
 $-40 \div -8 = 5$

Significant Figures

e.g. round 3268 to 1 sf
 the first significant figure is a 3, which represents 300, so we need to round to the nearest thousand

3268 → **3000**
 1 sf
 Look at the next digit. 2 is less than 5 - stay at 3000

Rounding

Rounding to nearest 10 etc. 3) Decide if it stays or rounds up.

326
 1) Identify the tens digit.
 The tens digit is 2, or 20.
 Use the units digit to decide. "5 or more rounds up", so 6 will round up to the next 10.

2) Work out the next ten up.
326 is between **320** and **330**
326 → **330**

Rounding to decimal places:

3.248 → **3.2**
 1st dp
 Look at the next digit. 4 stays down - stay at 3.2.