Second Level Maths Tasks
Week beginning 18.1.2021

Maths Homework Options

To keep your mental maths up to scratch, keep working through your maths options sheets.

Frequent practise stops skills getting rusty.

10-15 minutes during each maths session will help your number work.

Algebra Top Trumps

I've put a PDF with some Top Trumps cards that you can print off and play with someone at home— the only twist is that you have to solve the equation to work out what your card is worth in each category.

You could design some of your own algebra top trump cards—animals? Cartoons? Cars?

5-a-day

I've put some number problems on the next sheet, you can choose 5 each day to work on like we would in class.

Remember to choose a level that is challenging enough for you.

Problem Solving
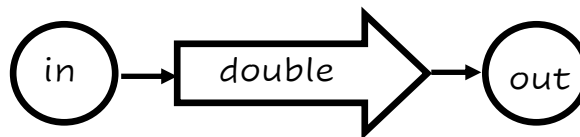
There is a problem involving tea cups on page 3.

If you manage to solve it, remember to post your solution to the blog or email it to the school office.

Function Machines

A function machine (or a number machine) is another name for a mathematical rule for changing numbers.

Example

Here is a function machine that doubles numbers.

in → double → out

So if 4 went in, 8 would come out, if 10 went in, 20 would come out, etc. Have a go at some of the function machines on page 4.

Sumdog

I've set a challenge this week working on equations—reach 250 correct answers over this week to earn 250 coins. I'll look out for people who are working hard on Sumdog to award some extra coins to this week.

5-a-day

Choose a level of challenge, choose a row to do each day

Mild

- 3774 + 2283   9938−3836   7229 x 7   216÷6   4x4 > 5x3, true or false?
- 9273+5344   6442−1193   7366 x 8   261÷3   16, 20, 24, ___, ___
- 5592+2593   8263−6278   3673 x 5   736÷8   21÷3 < 49÷9, true or false?

Medium

- 882.24 + 273.83   938.23—534.66   53.29 x 6   414.5 ÷ 5   4.5x10 > 7x6, true or false?
- 992.9 + 253.53   837.1−682.98   549.7x8   509.4 ÷ 6   2.4, 2.6, 2.8, ___, ___
- 6201.72 + 3611.32   5902.3−2273.8   366.7 x 4   493.83 ÷ 3   8x3 > 6x5, true or false?

Spicy

- 99.8 + 582.12 + 7.221   876−3.766   23x22   8378÷5   1.2, 1.5, 1.8, ___, ___, ___
- 445.3 + 838.5 + 66.91   803−45.667   55x76   9801÷8   5, 3, 1, ___, ___, ___
- 7364.15 + 98.44 + 710.354   200—1.83   86x52   9055÷2   11.25, 11.5, 11.75, ___, ___

Tea Cups

Aunt Jane had been to a jumble sale and bought a whole lot of cups and saucers - she's having many visitors these days and felt that she needed some more. You are staying with her and when she arrives home you help her to unpack the cups and saucers.

There are four sets: a set of white, a set of red, a set of blue and a set of green. In each set there are four cups and four saucers. So there are sixteen cups and sixteen saucers altogether.

Just for the fun of it, you decide to mix them around a bit so that there are sixteen different-looking cup/saucer combinations laid out on the table in a very long line.

So, for example:

a) there is a red cup on a green saucer but not another the same, although there is a green cup on a red saucer;
b) there is a red cup on a red saucer but that's the only one like it.

There are these sixteen different cup/saucer combinations on the table and you think about arranging them in a big square. Because there are sixteen, you realise that there are going to be four rows with four in each row (or if you like, four rows and four columns).

So here is the challenge to start off this investigation:
Place these sixteen different combinations of cup/saucer in this four by four arrangement with the following rules:-

1) In any row there must only be one cup of each colour;
2) In any row there must only be one saucer of each colour;
3) In any column there must only be one cup of each colour;
4) In any column there must be only one saucer of each colour.

Remember that these sixteen cup/saucers are all different so, for example, you CANNOT have a red cup on a green saucer somewhere and another red cup on a green saucer somewhere else.

There are a lot of different ways of approaching this challenge.

When you think you have completed it, check it through very carefully. It's even a good idea to get a friend who has seen the rules to check it also.
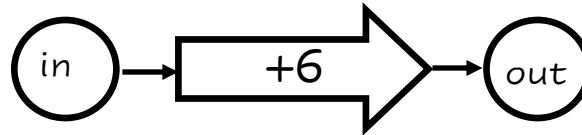
Function Machines

in → x4 → out
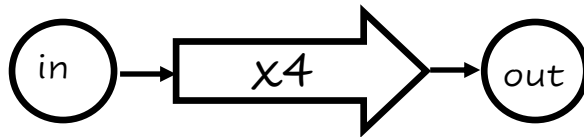
What would come **out** of this machine if these numbers went it?

a)3   b)4   c)7   d)12

What must have been put **in** to get these numbers out?
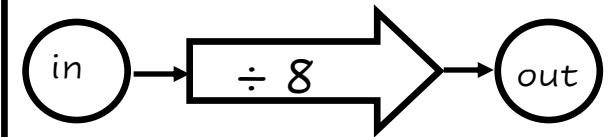
a)8   b)20   c)40   e)60

in → +6 → out

What would come **out** of this machine if these numbers went it?

a)9   b)28   c)165   d)94

What must have been put **in** to get these numbers out?

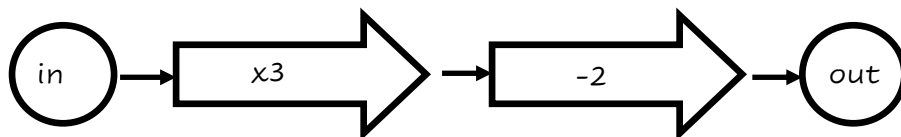a)826   b)657   c)67   e)99

in → ÷ 8 → out

What would come **out** of this machine if these numbers went it?

a)64   b)16   c)80   d)240

What must have been put **in** to get these numbers out?

a)20   b)12   c)5   e)16

This function machines has two steps.

in → x3 → -2 → out

What comes **out** if these went in?

a)5   b)9   c)21   d)45   e)826

Work <u>backwards</u>, and do the <u>opposite</u> of each step, to work out what must have been put **in** to get these numbers out (so for this machine, +2 and then ÷3.)

a) 22   b)49   c)58   d)31   e)73   f)298