Year 6

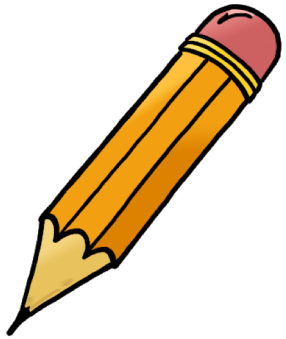
Monday 15th June 2020

Maths

LO: Find a rule

Please note: this link only works on either pdf or the link above this powerpoint.

The video lesson is available here – Summer Term – Week 7 - lesson 1



I'm thinking of a rule. Give me a number!

Dexter

5

Rosie

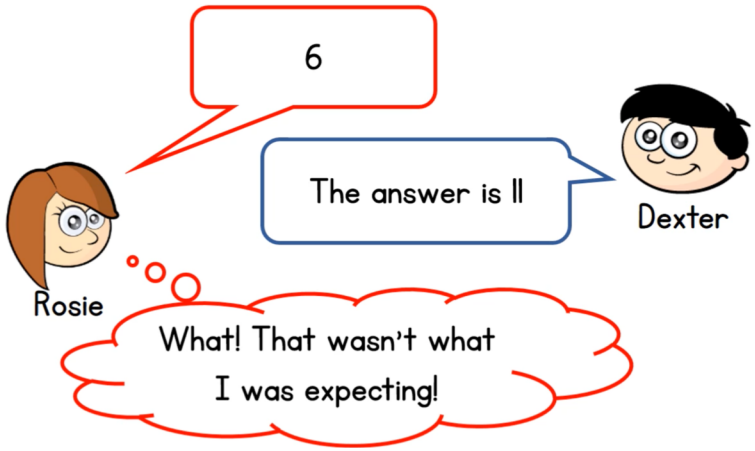
OK, the answer is 10

I wonder if he's doubling it. Let's try another!

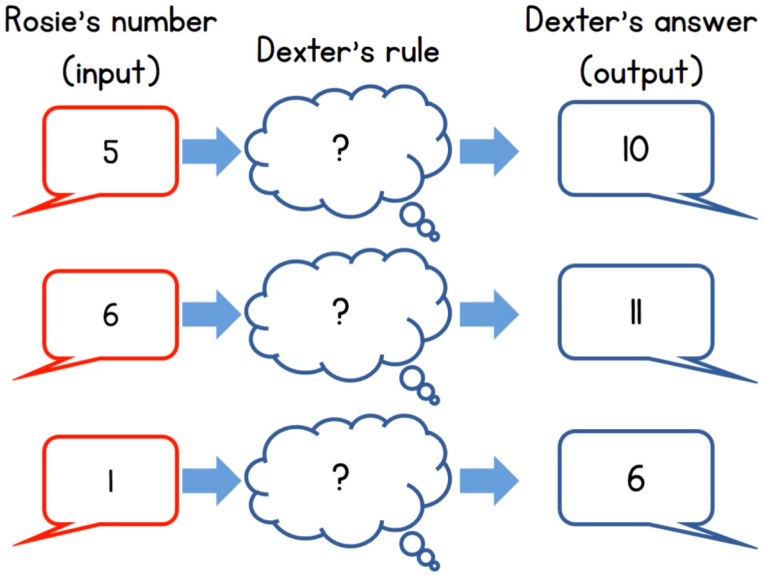
Are there other possibilities?

Rosie tries another number to see what answer she gets.
This will help her to find out which of the possibilities are correct.

Example:

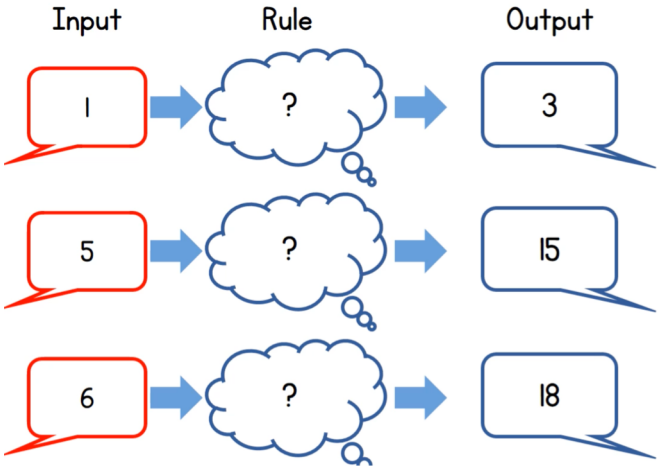


1:



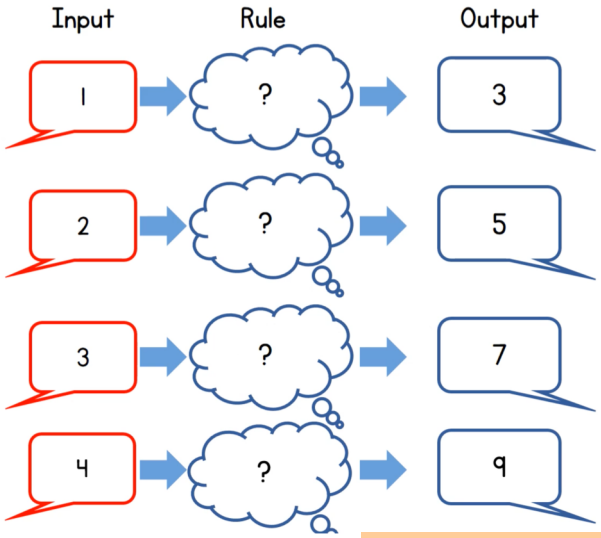
Can you solve the rule?

2:



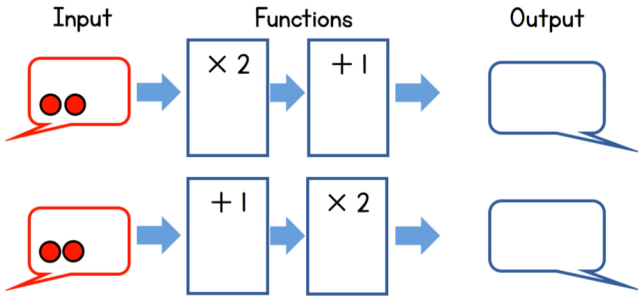
Just as Rosie did with the previous example you need to consider different possibilities to find the rule. Then you must try them on several examples to see If they work.

3:

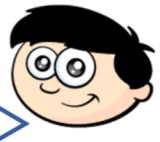


Tip: there can be more than one operation.

4:



If the inputs are the same, the output for the second machine is always 1 greater

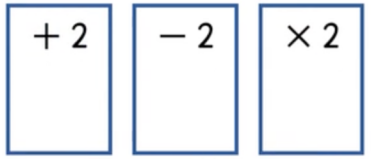


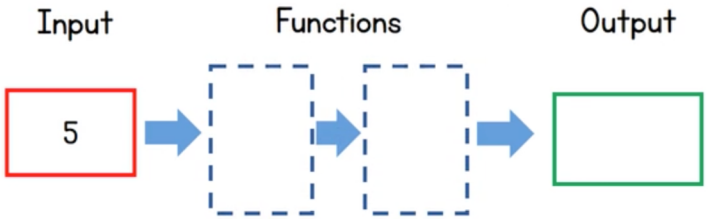
Do you agree with Dexter?

5:

Using any of two of the three cards **once,** can you create a machine that gives:

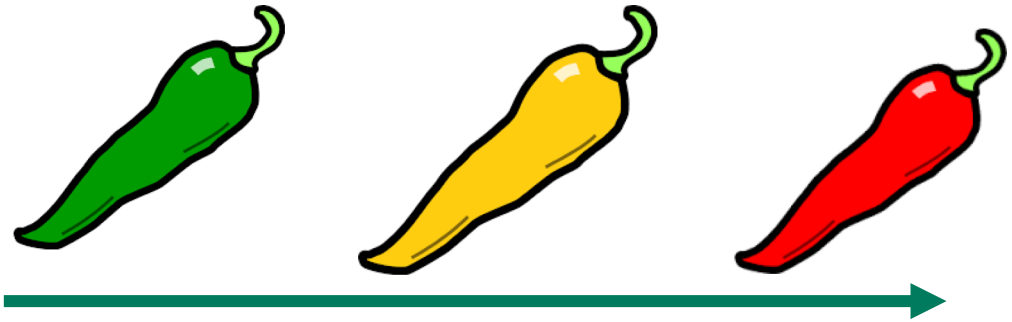
- The greatest output
- The smallest output





The independent work continues on the next two slides. There are 6 questions and 1 extension.

(Espanol - seis preguntas y una extensión)



The chili suggests a good starting point.

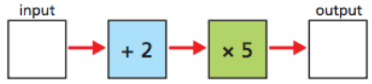
If you have time you can complete all the independent work!

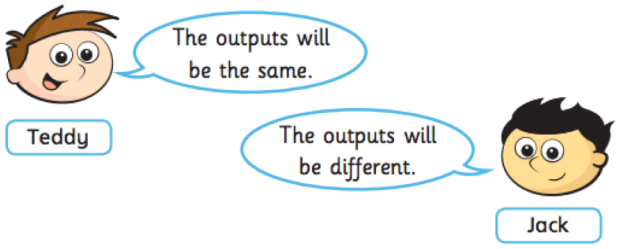
Find a rule – two step

1 Use the function machine to complete the table.

Input	1	2	3	5	10	50
Output						

2 Here is the same function machine with the steps in the reverse order.





Explain to a partner who you think is correct.

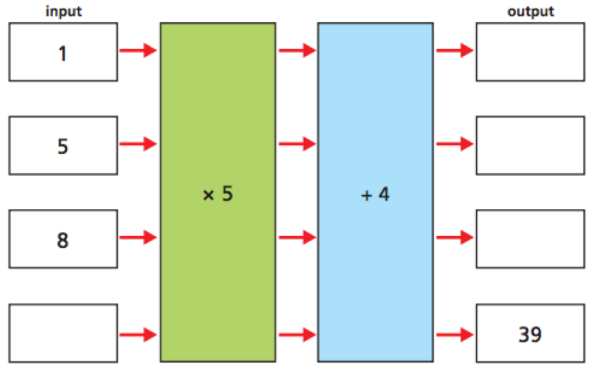
Use the function machine to complete the table.

Input	1	2	3	5	10	50
Output						

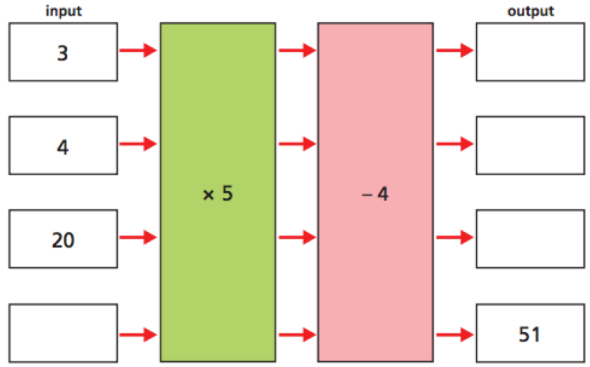
Who is correct? _____

3 Work out the missing outputs and inputs.

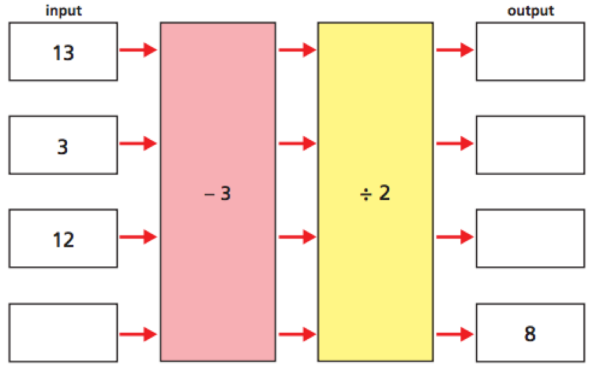
a)



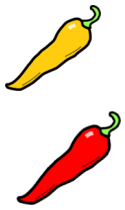
b)



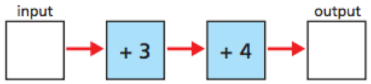
c)

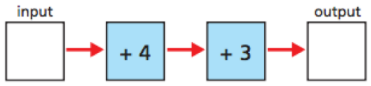


4 Tick the pairs of function machines that will give the same outputs for a given input.

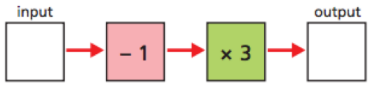


a)

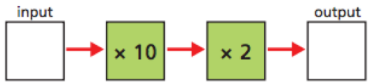


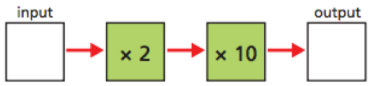


b)



c)





Explain your reasoning to a partner.

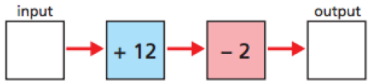
5 Here are some 2-step function machines.

For each machine, write a single step that would give the same output.

Check your answers by inputting values.

a)

b)



c)

Can all 2-step function machines be written as a 1-step function machine?

Talk about it with a partner.

6 Here is a function machine.

a) Complete the table.

Input	10	3		
Output			40	280

b) Rosie puts a number into the machine and she gets out the same number.

Work out Rosie's number.

Ext:

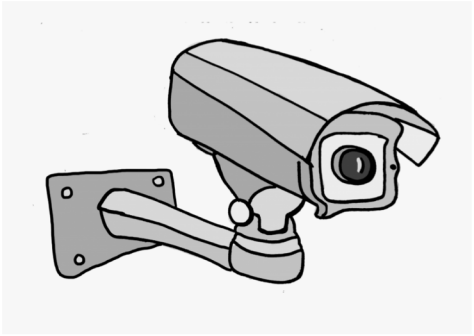
Mr Hall and Mrs Rose order some photos online.

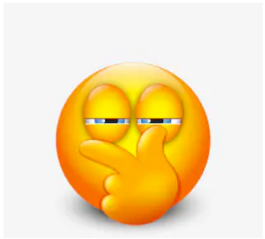
a) Mr Hall orders 16 photos.

How much does he pay?

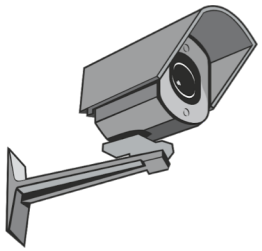
b) Mrs Rose pays £6.05

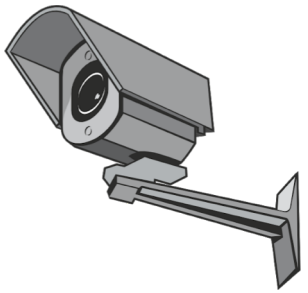
How many photos did she order?





The next two slides contain the answers should you wish to check you work and reflect on what you understand.



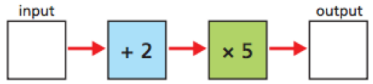


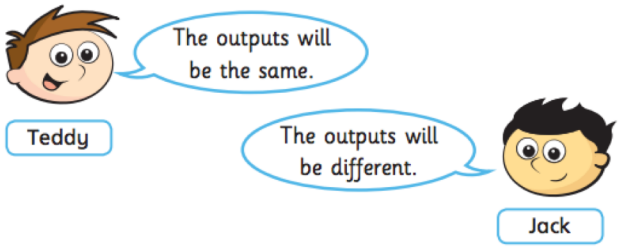
Find a rule – two step

1 Use the function machine to complete the table.

Input	1	2	3	5	10	50
Output	7	12	17	27	52	252

2 Here is the same function machine with the steps in the reverse order.





Explain to a partner who you think is correct.

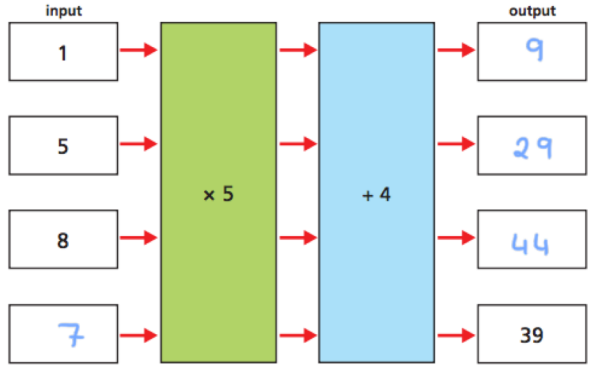
Use the function machine to complete the table.

Input	1	2	3	5	10	50
Output	15	20	25	35	60	260

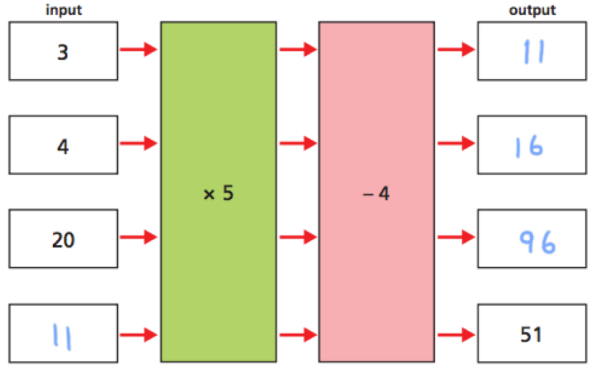
Who is correct? Jack

3 Work out the missing outputs and inputs.

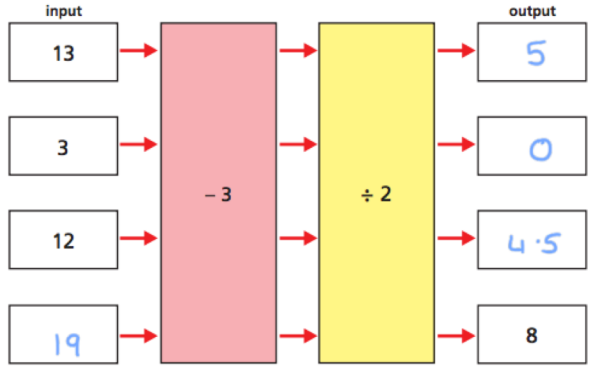
a)



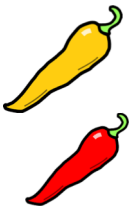
b)



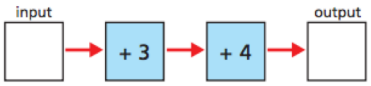
c)



4 Tick the pairs of function machines that will give the same outputs for a given input.



a)



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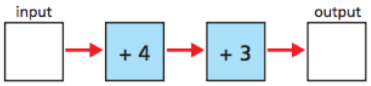

b)

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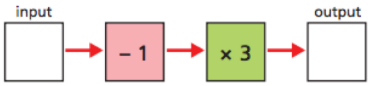
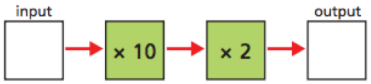


c)



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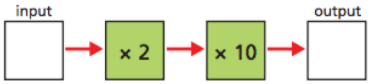


Explain your reasoning to a partner.

5 Here are some 2-step function machines.

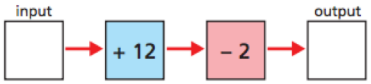
For each machine, write a single step that would give the same output.

Check your answers by inputting values.

a)

× 10

b)



+ 10

c)

× 4

Can all 2-step function machines be written as a 1-step function machine?

Talk about it with a partner.

6 Here is a function machine.

a) Complete the table.

Input	10	3	13	73
Output	28	0	40	280

b) Rosie puts a number into the machine and she gets out the same number.

Work out Rosie's number.

4

Ext:

Mr Hall and Mrs Rose order some photos online.

a) Mr Hall orders 16 photos.

How much does he pay?

£4·45

b) Mrs Rose pays £6.05

How many photos did she order?

24