Number Machines

1. Work out the outputs for the given inputs in these number machines:

a.

3	+ 9		−1	+ 9	
5	+ 9		−6	+ 9	

b.

2	× 7		−3	× 7	
6	× 7		−5	× 7	

c.

4	× 2	−3		0	× 2	−3	
9	× 2	−3		−3	× 2	−3	

d.

3	+ 3	× 5		−4	+ 3	× 5	
7	+ 3	× 5		−2	+ 3	× 5	

2. Work out the inputs for the given outputs in these number machines:

a.

	− 6	7		− 6	10
	− 6	3		− 6	−2

b.

	× 3	15		× 3	−12
	× 3	33		× 3	−6

c.

	× 5	+ 6	16		× 5	+ 6	−24
	× 5	+ 6	41		× 5	+ 6	−34

d.

	− 2	÷ 3	4		− 2	÷ 3	1
	− 2	÷ 3	9		− 2	÷ 3	−8

3. Can you find the number machines that correspond to these sets of inputs and outputs?

a.

4		−7	9		−2
−3		−14			

b.

15		7.5	0		0
−4		−2			

c.

2			7	0			1
−3			−8				

4. Find the output when the letter x is the input to these number machines.

a. $x \rightarrow$ [+ 9] $\rightarrow$ [ ]

b. $x \rightarrow$ [× 8] $\rightarrow$ [ ]

c. $x \rightarrow$ [× 3] $\rightarrow$ [− 2] $\rightarrow$ [ ]

d. $x \rightarrow$ [+ 8] $\rightarrow$ [× 9] $\rightarrow$ [ ]