

Chapter 10

Algebra

Number Machines Revision

A **number machine** (or **function machine**) is the name for a mathematical rule which changes **one number** into **another**.

Example :- The number machine below takes a number **IN** one side **trebles it** and pushes the answer **OUT** the other side.

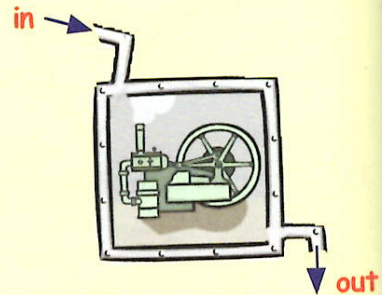


The number **8** is put **IN** :-



24 comes **OUT**.

Use a number machine to follow instructions involving calculations



Exercise 1

1. Look again at the **treble** function machine.

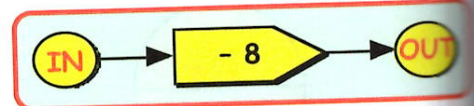
a What comes **out** when you put **in** the number :-

- (i) 5 (ii) 20 (iii) 60 (iv) 2·3 (v) 0?

b What number must have been put **in** to produce the answer :-

- (i) 9 (ii) 27 (iii) 6000 (iv) 9·6 (v) 21·3?

2. Here is a new function machine.



a What comes **out** of this machine when you put in the number :-

- (i) 9 (ii) 12 (iii) 8·5 (iv) 43 (v) 8?

b What number must have been put **in** to produce the answer :-

- (i) 17 (ii) 42 (iii) 80 (iv) 2·5 (v) 1002?

3. Look at these number machines.

Write down what number comes **OUT** :-

