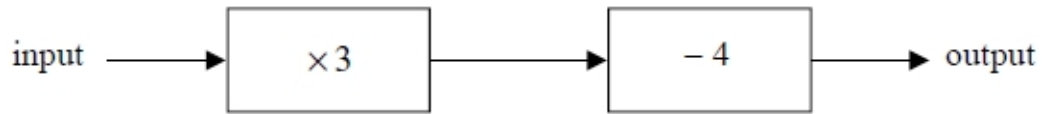


## Past Paper Questions



Q1.

Here is a number machine.



(a) Work out the **output** when the input is 4

.....

(1)

(b) Work out the **input** when the output is 11

.....

(2)

(c) Show that there is a value of the input for which the input and the output have the same value.

(2)

**(Total for question = 5 marks)**



Q2.

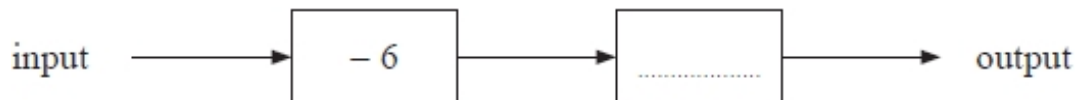
Here is a two-stage number machine.



(a) Work out the output when the input is 20

.....  
(1)

Here is a different two-stage number machine.



When the input is 10, the output is 12

(b) Complete the number machine.

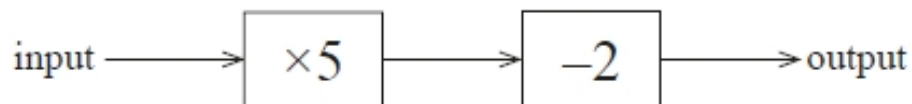
(1)

**(Total for question = 2 marks)**

Q3.



Here is a number machine.



(a) Work out the **output** when the input is 8

.....  
(1)

(b) Work out the **input** when the output is 28

.....  
(2)

(Total for question = 3 marks)



**Q4.**

Here is a number machine.



(a) Find the output when the input is 6

.....  
(1)

(b) Find the output when the input is -4

.....  
(1)

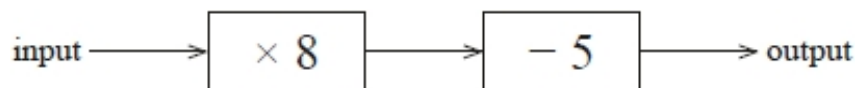
(c) Find the input when the output is 79

.....  
(2)

**(Total for question = 4 marks)**

**Q5.**

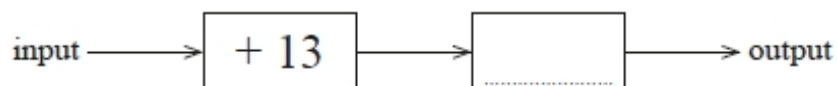
Here is a number machine.



(a) Work out the output when the input is 6

.....  
(1)

Here is a different number machine.



When the input is 17, the output is 10

(b) Complete the number machine.

(1)

**(Total for question = 2 marks)**



**Q6.**

The diagram shows a number machine.



(a) Find the output when the input is 7

.....

(1)

(b) Find the input when the output is 41

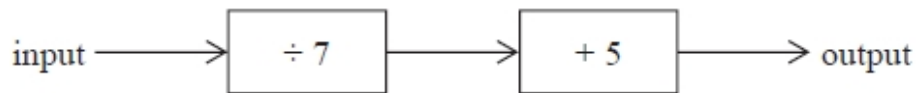
.....

(2)

**(Total for question = 3 marks)**

**Q7.**

Here is a number machine.

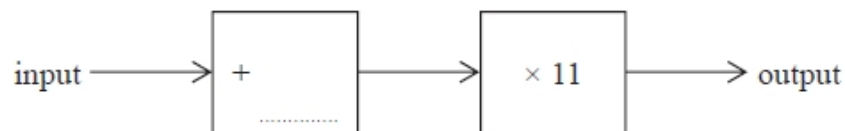


(a) Work out the output when the input is 28

.....

(1)

Here is a different number machine.  
The number machine is not complete.



When the input is 8, the output is 154

(b) Complete the number machine.

(2)

**(Total for question = 3 marks)**