FUNCTION MACHINES

Pearson Edexcel - Tuesday 19 May 2020 - Paper 1 (Non-Calculator) Foundation Tier

1.

12 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 12 is 3 marks)

Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Foundation Tier

2.

10 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 10 is 3 marks)

OCR Thursday 6 June 2019 – Morning (Non-Calculator) Foundation Tier

3.

6 Here is a function machine.

(a) (i) Find the output when the input is 7.

(a)(i) ..... **[1]**

(ii) Find the input when the output is 42.

(ii) ..... **[2]**

(b) The input is x and the output is y.

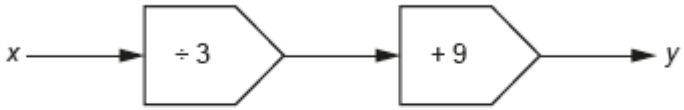
Write an equation for y in terms of x.

(b) ..... **[2]**

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

4.

8 Here is a function.
The input is x and the output is y.



Write an algebraic expression for y in terms x.

$y =$ ..... **[2]**

OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier

5.

8 This is a rule to find the time, in minutes, needed to roast lamb.

(a) Use the rule to work out the time needed to roast a piece of lamb which weighs 4 pounds.

(a) ..... minutes **[2]**

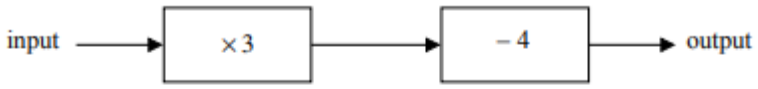
(b) A different piece of lamb takes 95 minutes to roast.

Use the rule to work out the weight of this piece of lamb.

(b) ..... pounds **[2]**

6.

7 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.

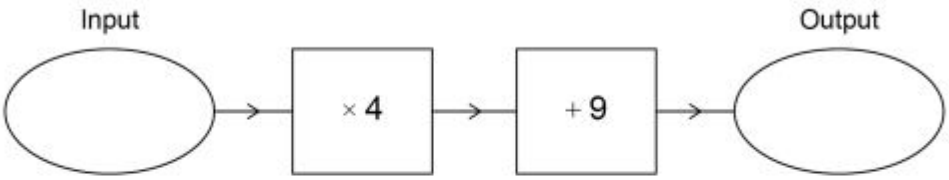
(2)

(Total for Question 7 is 5 marks)

AQA Thursday 4 June 2020 – Morning (Calculator) Foundation Tier

7.

10 (a) Here is a number machine.

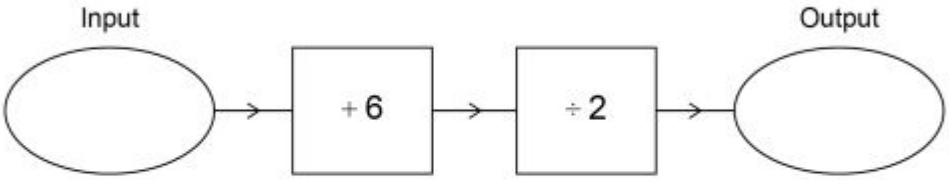


Work out the output when the input is 16

[1 mark]

Answer _____

10 (b) Here is a different number machine.



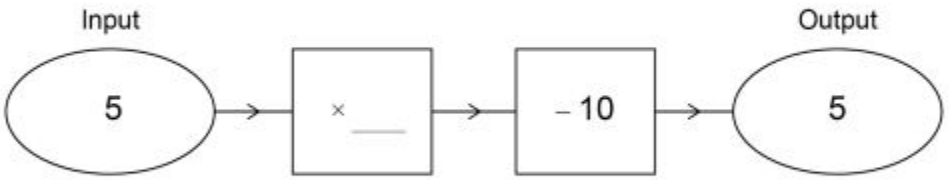
Work out the output when the input is –48

[1 mark]

Answer _____

10 (c) Complete this number machine.

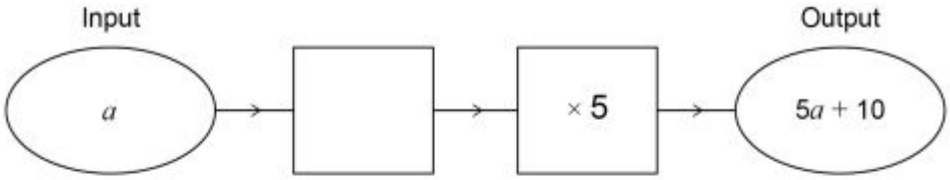
[1 mark]



AQA Thursday 11 June 2019 – Morning (Calculator) Foundation Tier

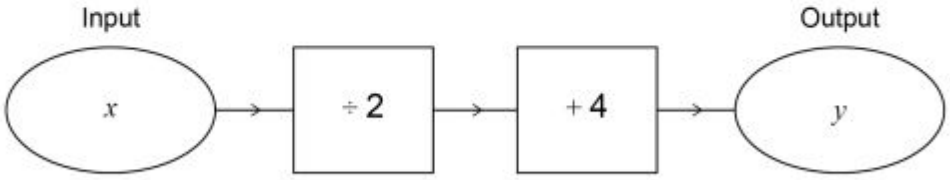
8.

11 (a) Complete the number machine.



[1 mark]

11 (b) Write down the output y in terms of x.



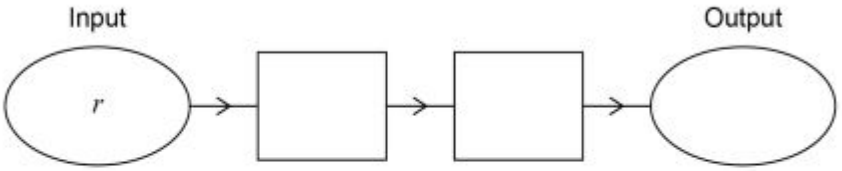
[1 mark]

Answer _____

AQA Wednesday 8 November 2017 – Morning (Calculator) Foundation Tier

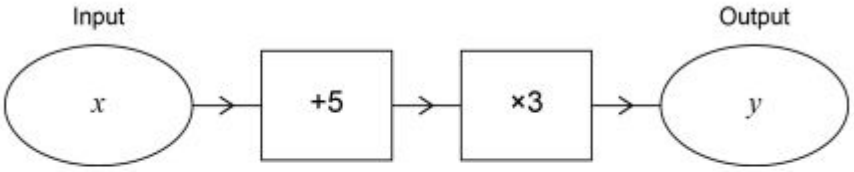
9.

8 (a) Complete the number machine so that $q = 7r - 2$



[2 marks]

8 (b) Write down the output y in terms of x.



[1 mark]

Answer _____

AQA Tuesday 13 June 2017 Morning– Morning (Calculator) Foundation Tier

10.

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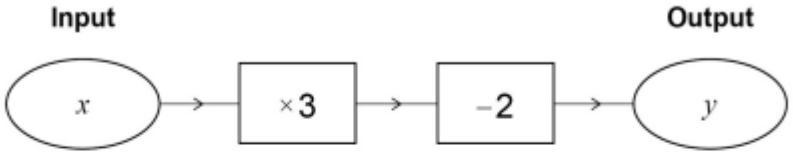
7 Here is a number machine.



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

[1 mark]

Answer _____

7 (b) Work out the output when the input is –4

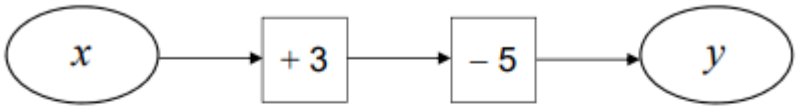
[1 mark]

Answer _____

AQA Sample Paper 2– Morning (Calculator) Foundation Tier

11.

7 (a) Alan is looking at number machine problems.



He says,

"If I know y I can work out x.
I subtract 3 then I add 5."

Does this method work?

Give a reason for your answer.

[1 mark]

7 (b)

He says,

"If I know d I can work out c.
I divide by 3, then subtract 5."

Does this method work?

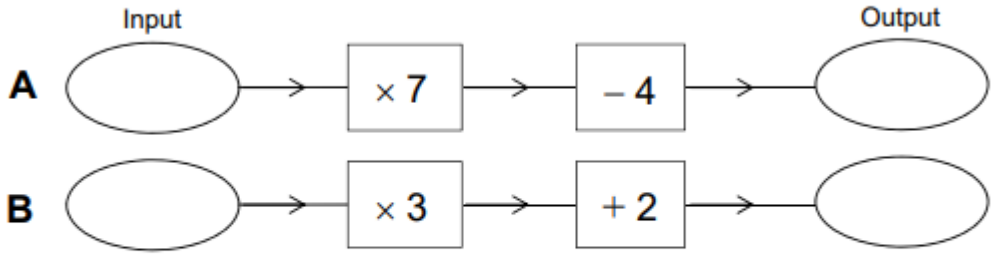
Give a reason for your answer.

[1 mark]

AQA Sample Paper 2– Morning (Calculator) Foundation Tier

12.

18 Here are two number machines, **A** and **B**.



Both machines have the same input.

Work out the input that makes

the output of **A** three times the output of **B**.

[4 marks]

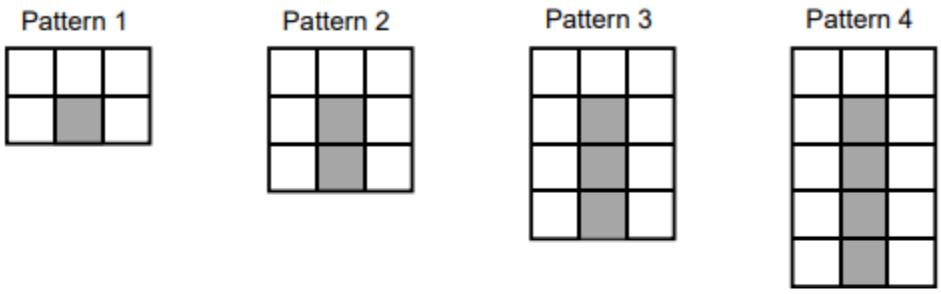
Answer _____

AQA Sample Paper 3– Morning (Calculator) Foundation Tier

13.

11 A sequence of patterns uses grey squares and white squares.

Here are the first four patterns.



11 (a) Work out the **total** number of squares in Pattern 100

[3 marks]

Answer _____

11 (b) Complete this number machine for the sequence of patterns.

[1 mark]