



Function Machines Exam Practice

Q1. Here is a number machine.



a) What is the output when the input is 12?

(1 mark)

b) What is the input when the output is 37?

(1 mark)

Q2. Here is a number machine.



a) What is the output when the input is 119?

(1 mark)

b) What is the input when the output is 5?

(1 mark)

Q3. Here is an incomplete number machine. Complete the number machine so that if the input is 15, the output is 111.



(1 mark)

Q4. Here is an incomplete number machine. Complete the number machine so that if the input is 15, the output is 111.



(1 mark)



Q5. Here is a function machine:



The input is the same as the output. Find the input. (2 marks)

Applied Mixed Practice Problems

Q6. Here is a function machine to convert between metres to inches:



Casey is 5 feet $2\frac{1}{2}$ inches tall. Use the machine to work out her height in metres, giving your answer to 2 decimal places.
[You are given that 1 foot = 12 inches]

(2 marks)

Q7. Norman runs a taxi firm. He charges customers £2.50 for each mile they travel as well as a booking fee of £1.25



a) Complete the number machine so it models Norman's charging scheme. (1 mark)

b) Bill lives in Bryston and wants to go to Ridgeway, which is 18 miles away. Show whether or not he can hire a taxi for £45. (2 marks)

c) Norman decides that he wishes to increase his charge per mile, but keep the booking fee as it is. He would like a journey of 49 miles to cost £87. Work out what his new charge per mile should be. (2 marks)

Q8. In round 1 of a game, the number 4 is used to obtain an output number using the machine below. In round 2, this output number is used as the next input value to the machine, and so on. Work out how many rounds of the game will be needed to obtain an output which is more than 100.



(3 marks)