1 A machine multiplies the input by 4. Write down what comes out.

(a) 3 goes in (1)

(b) 7 goes in (1)

(c) 0 goes in (1)

(d) $\frac{1}{2}$ goes in (1)

(4 marks)

2 A machine multiplies by 2 and then adds 5. Write down what comes out.

(a) 1 goes in (1)

(b) 4 goes in (1)

(c) 10 goes in (1)

(d) 0 goes in (1)

(4 marks)

3 Write each machine as an equation, using x for the input and y for the output.

(a) Multiply by 3 (1)

(b) Add 8 (1)

(c) Multiply by 5 then subtract 2 (1)

(d) Subtract 4 then multiply by 3 (1)

(4 marks)

4 Complete the table for the function $y = 3x + 2$.

(a) $x = 0$ (1)

(b) $x = 1$ (1)

(c) $x = 2$ (1)

(d) $x = 5$ (1)

(e) Write your four answers as ordered pairs (2)

(6 marks)

5 Complete the table for the function $y = 10 - 2x$.

(a) $x = 0$ (1)

(b) $x = 1$ (1)

(c) $x = 3$ (1)

(d) $x = 5$ (1)

(e) What happens to y as x gets bigger? (1)

(5 marks)

6 A machine takes a number in, subtracts 3, and puts the answer out.

(a) Write down what comes out when 10 goes in (1)

(b) Write down what comes out when 10 goes in a second time (1)

(c) Explain why a machine that gave a different answer the second time would not be a function (2)

(4 marks)