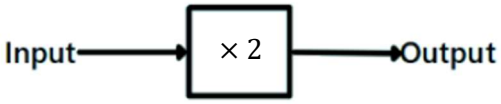
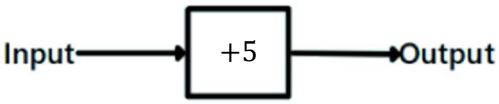
FUNCTION MACHINES

Task 1 – For each of the following function machines, work out the:

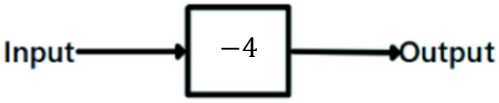
1) Output, when the input is 5 10



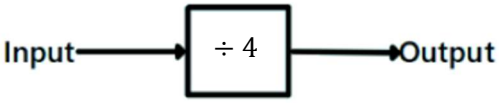
2) Output, when the input is 3 8



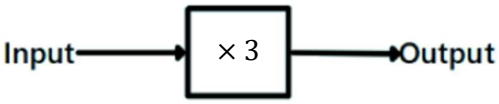
3) Output, when the input is 0.5 -3.5



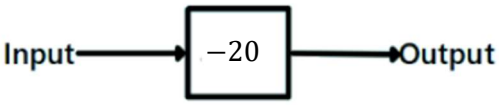
4) Output, when the input is -4. -1



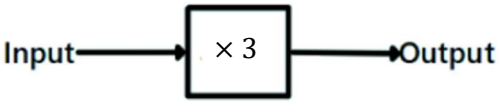
5) Input, when the output is 21. 7



6) Input, when the output is 2. 22



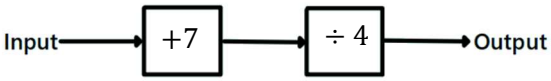
7) Input, when the output is -12. -4



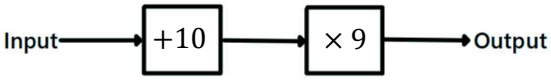
8) Input, when the output is 1.5. -5

Task 2 – For each of the following function machines, work out the:

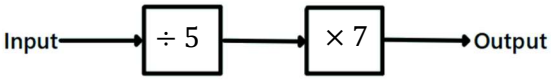
9) Output, when the input is 1. 2



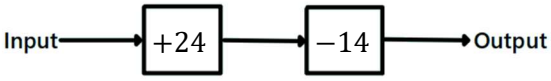
10) Output, when the input is 8. 162



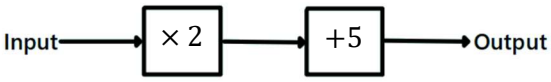
11) Output, when the input is 50. 70



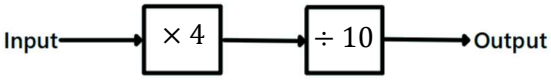
12) Output, when the input is -2. -12



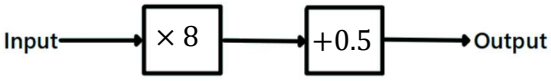
13) Input, when the output is 6. 0.5



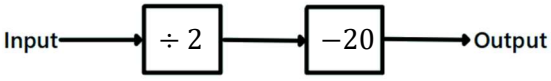
14) Input, when the output is 40. 100



15) Input, when the output is 2.5 0.25

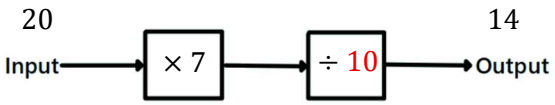


16) Input, when the output is -4. 32

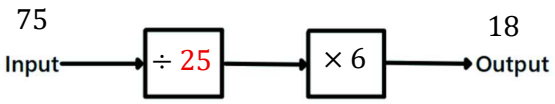


Task 3 – For each of the following, work out the missing value.

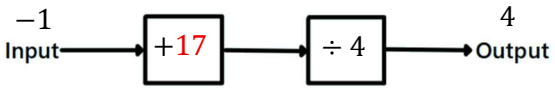
17)



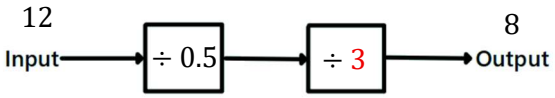
18)



19)

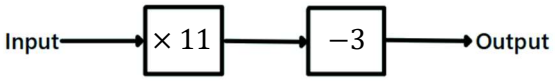


20)

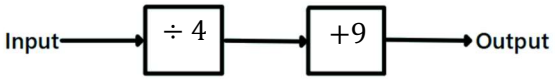


Task 4 – For each of the following function machines, the input is x. Write a fully simplified algebraic expression for the output.

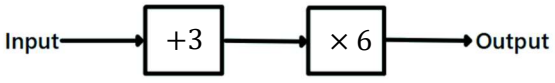
21) $11x - 3$



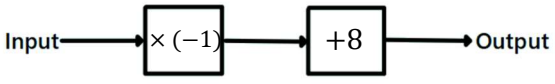
22) $\frac{x}{4} + 9$



23) $6(x + 3) = 6x + 18$

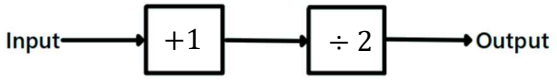


24) $-x + 8$

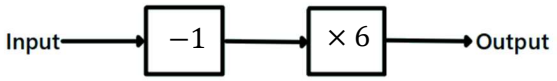


Task 5 – For each of the following function machines, the output is y. Write a fully simplified algebraic expression for the input.

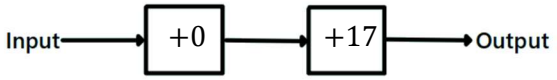
25) $2y - 1$



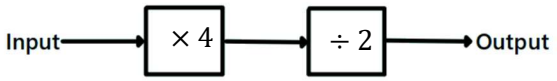
26) $\frac{y}{6} + 1$



27) $y - 17$

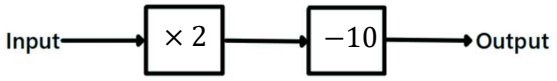


28) $\frac{2y}{4} = \frac{y}{2}$



Challenge

29) For the following function machine, the input is the same as the output. Work out the input. 10



30) Two function machines are pictured below. The same number, x, is input into both machines. The output of both machines is the same. Work out the value of the input, x. x = 20