

FUNCTION MACHINES

ANSWER SHEET

Q1

a) when input is 8

$$I \rightarrow \boxed{\times 5} \rightarrow \boxed{-2} \rightarrow 0$$
$$8 \times 5 = 40$$
$$40 - 2 = 38$$

b) $I \rightarrow \boxed{+10} \rightarrow \boxed{} \rightarrow 0$

input is 10, out put is 2

$$10 + 10 = 20$$

Answer \Rightarrow $\boxed{\div 10}$ OR $\boxed{\times 0.1}$ OR $\boxed{-18}$

Q2

a) $I \rightarrow \boxed{\times 3} \rightarrow \boxed{-7} \rightarrow 0$

input = 6

$$6 \times 3 = 18$$

$$18 - 7 = 11$$

b) output 25

$$25 + 7 = 32$$

$$32 \div 3 = 10.66$$

Q3

$I \rightarrow \boxed{\div 3} \rightarrow \boxed{+5} \rightarrow 0$

input = 15

$$15 \div 3 = 5$$

$$5 + 5 = 10$$

b) output 12

$$12 - 5 = 7$$

$$7 \times 3 = 21$$

Q4

$$(4) \quad I \rightarrow \boxed{\times 5} \rightarrow \boxed{+2} \rightarrow 0$$

\Rightarrow input 4

$$4 \times 5 = 20$$

$$20 + 2 = 22$$

b) output = 42

$$42 - 2 = 40$$

$$40 \div 5 = 8$$

Q5

$$(5) \quad I \rightarrow \boxed{\div 8} \rightarrow \boxed{-5} \rightarrow 0$$

a) input = 64

$$64 \div 8 = 8$$

$$8 - 5 = 3$$

b) output 0

$$0 + 5 = 5$$

$$5 \times 8 = 40$$

Q6

$$(6) \quad I \rightarrow \boxed{\times 5} \rightarrow \boxed{+7} \rightarrow 0$$

input 6

a) $6 \times 5 = 30$

$$30 + 7 = 37$$

b) input = -4

$$-4 \times 5 = -20$$

$$-20 + 7 = -13$$

c) output = 72

$$72 - 7 = 65$$

$$65 \div 5 = 13$$

Q7

$$\textcircled{7} \quad I \rightarrow \boxed{\times 5} \rightarrow \boxed{+10} \rightarrow 0$$

input 5

$$\begin{aligned} \text{a)} \quad 5 \times 5 &= 25 \\ 25 + 10 &= 35 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad \text{input } -3 \\ -3 \times 5 &= -15 \\ -15 + 10 &= -5 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad \text{Output } 65 \\ 65 - 10 &= 55 \\ 55 \div 5 &= 11 \end{aligned}$$

Q8

$$\textcircled{8} \quad I \rightarrow \boxed{\times 4} \rightarrow \boxed{-6} \rightarrow 0$$

input = 4

$$\begin{aligned} \text{a)} \quad 4 \times 4 &= 16 \\ 16 - 6 &= 10 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad \text{Output} &= 22 \\ 22 + 6 &= 28 \\ 28 \div 4 &= 7 \end{aligned}$$

Input	Output
2	2

$$\begin{aligned} \textcircled{2} \times 4 &= 8 \\ 8 - 6 &= \textcircled{2} \end{aligned}$$

$$2 \rightarrow \boxed{\times 3} \rightarrow \boxed{-6} \rightarrow 2$$

Q9

⑨

a) $13 \times 1.8 = 23.4$
 $23.4 + 32 = 55.4$

input $\rightarrow \times 1.8 \rightarrow + 32 \rightarrow$ output

b)

55.4

$$55.4 - 32 = 23.4$$

$$23.4 \div 1.8 = 13$$

Q10

⑩

input $\rightarrow \times 2.30 \rightarrow + 2.60 \rightarrow$ output

a) $10 \times 2.3 = 23$
 $23 + 2.60 = 25.60$

b) 20.4

$$20.4 - 2.60 = 17.80$$

$$17.80 \div 2.30 = 7.74$$