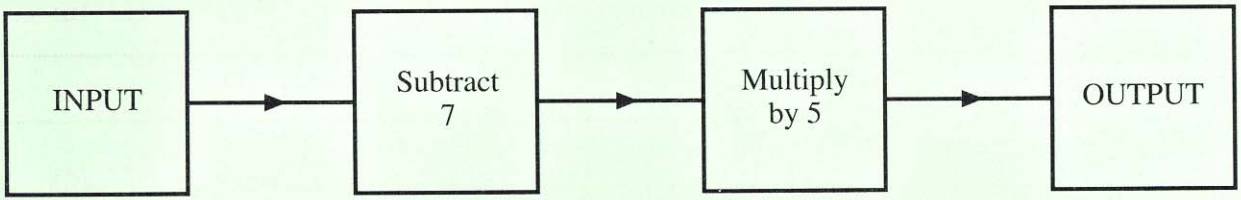
3. *(a)* The diagram below represents a number machine.



Find the OUTPUT when the INPUT is n.

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[2]

(b) Use the formula $T = 2D + 3W$ to find the value of W when $T = 33$ and $D = 6$.

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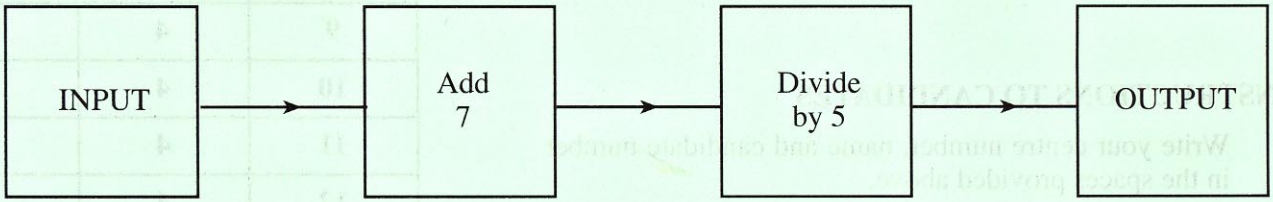
[3]

2. The diagram below represents a number machine.



If the input is x, write down the output in terms of x.

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[2]

(d) Find the value of $5x - 6y$ when $x = -2$ and $y = 3$.

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[2]

(b) Find the value of $4x + 3y$ when $x = -6$ and $y = 5$.

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[2]

(c) Find the value of $4c - 3d$ when $c = -2$ and $d = 6$.

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[2]

(c) Find the value of $8x + 6y$ when $x = -3$ and $y = 5$.

[2]

(d) Write down the first three terms of the sequence whose nth term is $n^2 - 2$.

[2]

12. Given that $h = \frac{12(a-17)}{m}$, find the value of h when $a = 9$ and $m = -4$.

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[3]

13. Given that $w = \frac{d(t-1)}{3}$, find the value of w when $t = -8$ and $d = 25$.

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[3]