Playing With Numbers Ex 5.2 Q1

Answer :

It is given that $\overline{35a64}$ is a multiple of 3.

$\therefore \left(3+5+a+6+4\right)$ is a multiple of 3.

$\therefore \left(a+18\right)$ is a multiple of 3.

$\therefore \left(a+18\right) = 0,\ 3,\ 6,\ 9,\ 12,\ 15,\ 18,\ 21\ldots$

But a is a digit of number $\overline{35a64}$. So, a can take value $0,\ 1,\ 2,\ 3,\ 4\ldots 9$.

$a+18=18 \Rightarrow a=0$

$a+18=21 \Rightarrow a=3$

$a+18=24 \Rightarrow a=6$

$a+18=27 \Rightarrow a=9$

$\therefore a=0,\ 3,\ 6,\ 9$

Playing With Numbers Ex 5.2 Q2

Answer :

It is given that $\overline{18x71}$ is a multiple of 3.

$\therefore \left(1+8+x+7+1\right)$ is a multiple of 3.

$\therefore \left(17+x\right)$ is a multiple of 3.

$\therefore 17+x=0,\ 3,\ 6,\ 9,\ 12,\ 15,\ 18,\ 21\ldots$

But x is a digit. So, x can take values $0,1,2,3,4\ldots 9$.

$17+x=18 \Rightarrow x=1$

$17+x=21 \Rightarrow x=4$

$17+x=24 \Rightarrow x=7$

$x=1,4,7$

Playing With Numbers Ex 5.2 Q3

Answer :

It is given that $\overline{66784x}$ is a multiple of 9.

Therefore, $\left(6+6+7+8+4+x\right)$ is a multiple of 9.

And,

$\left(31+x\right)$ is a multiple of 9.

Possible values of $\left(31+x\right)$ are $0,\ 9,\ 18,\ 27,\ 36,\ 45,\ldots$

But x is a digit. So, x can only take value $0,\ 1,\ 2,\ 3,\ 4,\ldots 9$.

$\therefore 31+x=36$

$\Rightarrow x=36-31$

$\Rightarrow x=5$

Playing With Numbers Ex 5.2 Q4

Answer :

It is given that $\overline{67y19}$ is a multiple of 9.

$\therefore \left(6+7+y+1+9\right)$ is a multiple of 9.

$\therefore \left(23+y\right)$ is a multiple of 9.

$23+y = 0,\ 9,\ 18,\ 27,\ 36\ldots$

But x is a digit. So, x can take values $0, 1, 2, 3, 4\ldots 9$.

$23+y = 27$

$\Rightarrow y = 4$

********** END **********