Exercise 5(D)

1) 1x5

$\Rightarrow$ $1 + x + 5$ is ~~divisible~~ multiple by 3

$\Rightarrow$ $6 + x = 0, 3, 6, 9$

$\Rightarrow$ $x = -6, -3, 0, 3, 6, 9$

Since, x is a digit

$x = 0, 3, 6$ or 9

2) 31x5

$\Rightarrow$ $3 + 1 + x + 5$ is a ~~divisible~~ multiple by 3

$\Rightarrow$ $9 + x = 0, 3, 6, 9$

$\Rightarrow$ $x = -9, -6, -3, 0, 3, 6, 9$

Sice, x is a digit

$x = 0, 3, 6$ or 9

3) 28x6

$\Rightarrow$ $2 + 8 + x + 6$ is a ~~divisible~~ multiple by 3

$\Rightarrow$ $16 + x = 0, 3, 6, 9, 12, 15, 18$

$\Rightarrow$ $x = -18, -5, -2, 0, 2, 5, 8$

Since, x is a digit

$x = 2, 5$ or 8

4) 24x

$\Rightarrow$ $2 + 4 + x$ is a ~~divisible~~ multiple by 6

$\Rightarrow$ $6 + x = 0, 6, 12$

$\Rightarrow$ $x = -6, 0, 6$

Since, x is a digit

$x = 0, 6$

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5) 3x26

3+x+2+6 is a multiple of 6.

11+x = 0, 3, 6, 9, 12, 15, 18, 21

x = -11, -8, -5, -2, 1, 4, 7, 10 . . . .

Since, x is a digit

x = 1, 4 or 7

6) 42x8

4+2+x+8 is a multiple of 4.

14+x = 0, 2, 4, 6, 8

x = -8, -6, -4, -2, 2, 4, 6, 8

Since, x is a digit

x = 2, 4, 6 or 8

7) 9142x

9+1+4+2+x is a multiple of 4

16+x = 0, 4, 8

x = -8, -4, 0, 4, 8

Since, x is a digit

x = 4 or 8

8) 7x34

7+x+3+4 is a multiple of 9

14+x = 0, 9, 18, 27

x = -1, 4, 13

Since, x is a digit

x = 4

9) 5x555 is a multiple of 9.

$5 + x + 5 + 5 + 5 = 7$

$20 + x = 7$

$x = -7, 7$

Since, x is a digit.

$x = 7$

10) 3x2

Odd place $= 3 + 2 = 5$

even place $= ~~3+2=5~~ ~x$

Difference $= x - 5$

$x - 5 = 0, 11, 22$

$x = 5, 011, 22$

Since, x is a digit.

$\therefore x = 5$

11) 5x2

Odd place $= 5 + 2 = 7$

even place $= x$

Difference $= x - 7$

$x - 7 = 0, 11, 22$

$x = 7, 18, 29$

Since, x is a digit

$\therefore x = 7$