



SpeedLabs

MATHS

CBSE 8<sup>th</sup>

TEEVRA EDUTECH PVT. LTD.

# Playing with Numbers

## Exercise 16.1

**Q.1** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} 3\ A \\ +\ 2\ 5 \\ \hline B\ 2 \end{array}$$

**Sol:** On putting  $A = 1, 2, 3, 4, 5, 6$  that is

$$1 + 5 = 6 < 12$$

$2 + 5 = 7 < 12, 3 + 5 = 8 < 12$  and so on  $7 + 5 = 12$  which is equal to 12. then,  $A = 7$

Put 2 and carry over 1

$$1 + 3 + 2 = 6 = B$$

Hence,  $A = 7$  and  $B = 6$

**Q.2** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} 4\ A \\ +\ 9\ 8 \\ \hline C\ B\ 3 \end{array}$$

**Sol:** On putting  $A = 5$ , we get  $8 + 5 = 13$ .

Put 3 at ones place and carry over 1.

Now,  $1 + 4 + 9 = 14$ , that means  $B = 4$  and  $C = 1$

Hence,  $A = 5, B = 4$  and  $C = 1$ .

**Q.3** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} 1\ A \\ \times\ A \\ \hline 9\ A \end{array}$$

**Sol:** Here value of  $A$  on these three places would be same.

If  $A = 1$ , we are not getting nine at tens place.

So, on putting  $A = 6$ .

We are getting 96.

Hence,  $A = 6$

**Q.4** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} A \ B \\ + 3 \ 7 \\ \hline 6 \ A \end{array}$$

**Sol:** Here, we observe that  $B = 5$  so that  $7 + 5 = 12$ . Put 2 at ones place and carry over 1 or  $A = 2$ .

Now,  $2 + 3 + 1 = 6$ .

Hence,  $A = 2$  and  $B = 5$ .

**Q.5** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} A \ B \\ \times 3 \\ \hline C \ A \ B \end{array}$$

**Sol:** Here, on putting  $B = 0$ , we get  $0 \times 3 = 0$ .

$A = 5$ , then  $5 \times 3 = 15$ , means  $A = 5$ ,  $C = 1$

Hence  $A = 5$ ,  $B = 0$  and  $C = 1$

**Q.6** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} A \ B \\ \times 5 \\ \hline C \ A \ B \end{array}$$

**Sol:** On putting  $B = 0$ , we get  $0 \times 5 = 0$  and  $A = 5$ , then  $5 \times 5 = 25$  means  $A > 5$ ,  $C = 2$ .

Hence,  $A = 5$ ,  $B = 0$  and  $C = 2$ .

**Q.7** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} A B \\ \times 6 \\ \hline B B B \end{array}$$

**Sol:** Here, product of Band 6 must be same as ones place digit as B.

$$6 \times 1 = 6, 6 \times 2 = 12, 6 \times 3 = 18, 6 \times 4 = 24.$$

On putting  $B = 4$  we get the ones digit 4 and remaining two

B's value must be 44.

$$\text{For } 6 \times 7 = 42 + 2 = 44.$$

Hence,  $A = 7$  and  $B = 4$ .

**Q.8** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} A 1 \\ + 1 B \\ \hline B 0 \end{array}$$

**Sol:** On putting  $B = 9, 9 + 1 = 10$ .

Put 0 at ones place and carry over 1.

$$\text{For } A \neq 7. \text{ Now, } A = 7 + 1 + 1 = 9.$$

Hence,  $A = 9$  and  $B = 9$ .

**Q.9** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} 2 A B \\ + A B 1 \\ \hline B 1 8 \end{array}$$

**Sol:** On putting  $B = 7$ , that means  $7 + 1 = 8$  and

$$\text{Now } A = 4, \text{ then } A = 4 + 7 = 11.$$

Put 1 at tens place and carry over 1.

$$\text{Now, } 2 + 4 + 1 = 7.$$

Hence,  $A = 4$  and  $B = 7$

**Q.10** Find the values of the letters in each of the following and give reasons for the steps involved.

$$\begin{array}{r} 12A \\ +6AB \\ \hline A09 \end{array}$$

**Sol:** Here,  $A = 8$  and  $B = 1$ .

Now,  $8 + 1 = 9$

Now again when we add  $2 + 8 = 10$ .

Tens place digit is '0' and carry over 1.

Now,  $1 + 6 + 1 = 8 = A$

Hence,  $A = 8$  and  $B = 1$ .