RD SHARMA
Solutions
Class 8 Maths
Chapter 5
Ex 5.3

Q1.

$$\begin{array}{ccc}
3 & 7 \\
+A & B
\end{array}$$

Soln:

Two possible values of A are:

(i) If
$$7 + B \le 9 + 3 + A = 9$$

$$\therefore A = 6$$

But if A = 6, 7 + B must be larger than 9.

Hence, it is impossible.

(ii) If
$$7 + B \ge 9$$

$$1 + 3 + A = 9$$

$$=> A = 5$$

$$1f A = 5 \text{ and } 7 + B = 5,$$

B must be 8

∴
$$A = 5$$
, $B = 8$

Q2.

$$\begin{array}{c|c} A & B \\ \hline +3 & 7 \\ \hline 9 & A \end{array}$$

Soln:

Two possibilities of A are:

(i) If
$$B + 7 < 9$$
,

$$A = 6$$

But clearly, if A = 6,

$$B + 7 \ge 9;$$

it is impossible

(ii) If
$$B + 7 \ge 9$$
,

$$A = 5$$
 and $B + 7 = 5$

Clearly,
$$B = 8$$

Q3.

$$\begin{array}{c|c} A & 1 \\ \hline +1 & B \\ \hline B & 0 \end{array}$$

Soln:If 1 + B = 0 Surely, B = 9

If 1 + A + 1 = 9 Surely, A = 7

Q4.

Soln:

$$B + 1 = 8$$
, $B = 7A + B = 1$, $A + 7 = 1$, $A = 4$

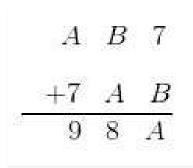
So,
$$A = 4$$
, $B = 7$

Q5.

Soln:

A + B = 9 as the sum of two digits can never be 192 + A = 0, A must be 8A + B = 9, 8 + B = 9, B = 1So, A = 8, B = 1

Q6.



Soln:

If
$$A + B = 8$$
, $A + B \ge 9$ is possible only if $A = B = 9$ But from $A + B = A$, $A = B = 9$ is impossible. Surely, $A + B = 8$, $A + B \le 9$ So, $A + A = 9$, Surely $A = 27 + B = 12$, $A = 12$,

Q7. Show that the Cryptarithm $4 \times AB = CAB$ does not have any solution.

Soln:

0 is the only unit digit number, which gives the same 0 at the unit digit when multiplied by 4. So, the possible value of B is 0. Similarly, for A also, 0 is the only possible digit. But then A, B and C will all be 0, and if A, B and C become 0, these numbers cannot be of two — digit or three — digit. Therefore, both will become a one — digit number. Thus, there is no solution possible.