Division

Activity-1

1. **(a)** $72 \div 8 = 9$ $(\because 8 \times 9 = 72)$ **(b)** $81 \div 9 = 9$ $(\because 9 \times 9 = 81)$

(c) $28 \div 4 = 7$ $(\because 4 \times 7 = 28)$ **(d)** $54 \div 6 = 9$ $(\because 6 \times 9 = 54)$

2. **(a)**

$$\begin{array}{r} 99 \\ 4\overline{)396} \\ -36 \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

Q = 99

(b)

$$\begin{array}{r} 132 \\ 6\overline{)797} \\ -6 \\ \hline 19 \\ -18 \\ \hline 17 \\ -12 \\ \hline 5 \end{array}$$

Q = 132

(c)

$$\begin{array}{r} 247 \\ 3\overline{)743} \\ -6 \\ \hline 14 \\ -12 \\ \hline 23 \\ -21 \\ \hline 2 \end{array}$$

Q = 247

(d)

$$\begin{array}{r} 160 \\ 5\overline{)804} \\ -5 \\ \hline 30 \\ -30 \\ \hline 04 \\ -0 \\ \hline 4 \end{array}$$

Q = 160

(e)

$$\begin{array}{r} 2076 \\ 4\overline{)8306} \\ -8 \\ \hline 030 \\ -28 \\ \hline 26 \\ -24 \\ \hline 2 \end{array}$$

Q = 2076

(f)

$$\begin{array}{r} 883 \\ 5\overline{)4416} \\ -40 \\ \hline 41 \\ -40 \\ \hline 16 \\ -15 \\ \hline 1 \end{array}$$

Q = 883

(g)

$$\begin{array}{r} 788 \\ 8\overline{)\,6308} \\ -56 \\ \hline 70 \\ -64 \\ \hline 68 \\ -64 \\ \hline 4 \end{array}$$

Q = 788

(h)

$$\begin{array}{r} 936 \\ 3\overline{)\,2810} \\ -27 \\ \hline 11 \\ -9 \\ \hline 20 \\ -18 \\ \hline 2 \end{array}$$

Q = 936

3. The cost of 8 bags = ₹ 1648

$\therefore$ The cost of one bag = (₹ 1648 ÷ 8)

= ₹ 206

$$\begin{array}{r} 206 \\ 8\overline{)\,1648} \\ -16 \\ \hline 048 \\ -48 \\ \hline 0 \end{array}$$

Hence, the cost of one bag is ₹ 206.

4. Number of rows = 324 ÷ 9

= 36

$$\begin{array}{r} 36 \\ 9\overline{)\,324} \\ -27 \\ \hline 54 \\ -54 \\ \hline 0 \end{array}$$

Hence, there are 36 rows in the auditorium.

5. Number of dresses made by Ragini = 576 ÷ 4

= 144

$$\begin{array}{r} 144 \\ 4\overline{)\,576} \\ -4 \\ \hline 17 \\ -16 \\ \hline 16 \\ -16 \\ \hline 0 \end{array}$$

So, Ragini will make 144 dresses.

Activity-2

1. **(a)** 928 **(b)** 1 **(c)** 0 **(d)** 888 **(e)** 235 **(f)** 0

2. **(a)**

$$\begin{array}{r} 65 \\ 5\overline{)\,328} \\ -30 \\ \hline 28 \\ -25 \\ \hline 3 \end{array}$$

Q = 65, R = 3

Checking :

Divisor × Quotient + Remainder

= 5 × 65 + 3

= 325 + 3

= 328 = Dividend

(b)

$$\begin{array}{r} 88 \\ 7\overline{)\,617} \\ -56 \\ \hline 57 \\ -56 \\ \hline 1 \end{array}$$

Q = 88, R = 1

Checking :
Divisor × Quotient + Remainder
= 7 × 88 + 1
= 616 + 1
= 617 = Dividend

(c)

$$\begin{array}{r} 49 \\ 6\overline{)\,299} \\ -24 \\ \hline 59 \\ -54 \\ \hline 5 \end{array}$$

Q = 49, R = 5

Checking :
Divisor × Quotient + Remainder
= 6 × 49 + 5
= 294 + 5
= 299 = Dividend

(d)

$$\begin{array}{r} 62 \\ 9\overline{)\,565} \\ -54 \\ \hline 25 \\ -18 \\ \hline 7 \end{array}$$

Q = 62, R = 7

Checking :
Divisor × Quotient + Remainder
= 9 × 62 + 7
= 558 + 7
= 565 = Dividend

Activity-3

1. On dividing a number by 10, the quotient is obtained by removing the ones digit from the number. The ones digit forms the remainder.
   (a) Q = 8, R = 9 **(b)** Q = 32, R = 4 **(c)** Q = 99, R = 8
   (d) Q = 463, R = 8 **(e)** Q = 152, R = 4 **(f)** Q = 972, R = 8
   (g) Q = 108, R = 9 **(h)** Q = 5215, R = 4 **(i)** Q = 787, R = 8

2. On dividing a number by 100, the quotient is obtained by removing the tens and ones digit from the number. The removed tens and ones digits number forms the remainder.
   (a) Q = 6, R = 83 **(b)** Q = 9, R = 57 **(c)** Q = 81, R = 72
   (d) Q = 33, R = 84 **(e)** Q = 67, R = 88 **(f)** Q = 54, R = 56
   (g) Q = 999, R = 99 **(h)** Q = 123, R = 45 **(i)** Q = 423, R = 41

3. On dividing a number by 1000, the quotient is obtained by removing the hundreds, tens and ones digit from the number. The number formed by the removed hundreds, tens and ones digits is the remainder.

(a) Q = 2, R = 872 **(b)** Q = 4, R = 723 **(c)** Q = 8, R = 927
(d) Q = 72, R = 873 **(e)** Q = 58, R = 373 **(f)** Q = 67, R = 171
(g) Q = 38, R = 287 **(h)** Q = 34, R = 456 **(i)** Q = 79, R = 202

Activity-4

1.

```
      531
   ┌─────
 9 │ 4787
   -45
   ---
    28
   - 27
   ----
     17
   -  9
   ----
      8
```

Q = 531,
R = 8

Checking :

```
  5 3 1
    × 9
-------
4 7 7 9
    + 8
-------
4 8 7 7
```

2.

```
      2310
   ┌──────
 6 │ 13865
   -12
   ---
    18
   -18
   ---
     06
   -  6
   ----
      05
    - 0
   ----
      5
```

Q = 2310,
R = 5

Checking :

```
  2 3 1 0
      × 6
---------
1 3 8 6 0
      + 5
---------
1 3 8 6 5
```

3.

```
      6979
   ┌──────
 9 │ 62817
   -54
   ---
    88
   -81
   ---
     71
   -63
   ---
     87
   -81
   ---
      6
```

Q = 6979,
R = 6

Checking :

```
  6 9 7 9
      × 9
---------
6 2 8 1 1
      + 6
---------
6 2 8 1 7
```

4.

$$\begin{array}{r} 29 \\ 12\overline{)\,348} \\ -24 \\ \hline 108 \\ -\,108 \\ \hline 0 \end{array}$$

Q = 29,
R = 0

Checking :

$$\begin{array}{r} 29 \\ \times\ 12 \\ \hline 58 \\ 290 \\ \hline 348 \end{array}$$

5.

$$\begin{array}{r} 35 \\ 17\overline{)\,607} \\ -51 \\ \hline 97 \\ -\,85 \\ \hline 12 \end{array}$$

Q = 35,
R = 12

Checking :

$$\begin{array}{r} 35 \\ \times\ 17 \\ \hline 245 \\ 350 \\ \hline 595 \\ +\ 12 \\ \hline 607 \end{array}$$

6.

$$\begin{array}{r} 50 \\ 15\overline{)\,759} \\ -75 \\ \hline 09 \\ -\ 0 \\ \hline 9 \end{array}$$

Q = 50,
R = 9

Checking :

$$\begin{array}{r} 50 \\ \times\ 15 \\ \hline 250 \\ 500 \\ \hline 750 \\ +\ 9 \\ \hline 759 \end{array}$$

7.

$$\begin{array}{r} 204 \\ 21\overline{)\,4287} \\ -42 \\ \hline 087 \\ -\ 84 \\ \hline 3 \end{array}$$

Q = 204,
R = 3

Checking :

$$\begin{array}{r} 204 \\ \times\ 21 \\ \hline 204 \\ 4080 \\ \hline 4284 \\ +\ 3 \\ \hline 4287 \end{array}$$

8.

$$\begin{array}{r} 273 \\ 34\overline{)\,9289} \\ -68 \\ \hline 248 \\ -\,238 \\ \hline 109 \\ -\,102 \\ \hline 7 \end{array}$$

Q = 273,
R = 7

Checking :

$$\begin{array}{r} 273 \\ \times\ 34 \\ \hline 1092 \\ 8190 \\ \hline 9282 \\ +\ 7 \\ \hline 9289 \end{array}$$

9.

$$
\begin{array}{r}
246 \\
36\overline{)\,8888} \\
-72 \\
\hline
168 \\
-144 \\
\hline
248 \\
-216 \\
\hline
32
\end{array}
$$

Q = 246,
R = 32

Checking :

$$
\begin{array}{r}
246 \\
\times\ 36 \\
\hline
1476 \\
7380 \\
\hline
8856 \\
+\ 32 \\
\hline
8888
\end{array}
$$

10.

$$
\begin{array}{r}
188 \\
42\overline{)\,7896} \\
-42 \\
\hline
369 \\
-336 \\
\hline
336 \\
-336 \\
\hline
0
\end{array}
$$

Q = 188,
R = 0

Checking :

$$
\begin{array}{r}
188 \\
\times\ 42 \\
\hline
376 \\
7520 \\
\hline
7896
\end{array}
$$

11.

$$
\begin{array}{r}
1456 \\
29\overline{)\,42238} \\
-29 \\
\hline
132 \\
-116 \\
\hline
163 \\
-145 \\
\hline
188 \\
-174 \\
\hline
14
\end{array}
$$

Q = 1456,
R = 14

Checking :

$$
\begin{array}{r}
1456 \\
\times\ 29 \\
\hline
13104 \\
29120 \\
\hline
42224 \\
+\ 14 \\
\hline
42238
\end{array}
$$

12.

$$
\begin{array}{r}
1754 \\
38\overline{)\,66666} \\
-38 \\
\hline
286 \\
-266 \\
\hline
206 \\
-190 \\
\hline
166 \\
-152 \\
\hline
14
\end{array}
$$

Q = 1754,
R = 14

Checking :

$$
\begin{array}{r}
1754 \\
\times\ 38 \\
\hline
14032 \\
52620 \\
\hline
66652 \\
+\ 14 \\
\hline
66666
\end{array}
$$

Activity-5

2. Other number = 4560 ÷ 15
= 304

$$\begin{array}{r} 304 \\ 15\overline{)\,4560} \\ -45 \\ \hline 060 \\ -\ 60 \\ \hline 0 \end{array}$$

Hence, other number is 304.

3. Number of balls in each box = 5255 ÷ 34
On dividing 5255 by 34, we get 154 and 19 as quotient and remainder respectively.

$$\begin{array}{r} 154 \\ 34\overline{)\,5255} \\ -34 \\ \hline 185 \\ -170 \\ \hline 155 \\ -136 \\ \hline 19 \end{array}$$

Thus, 154 balls will be filled in each box and 19 balls will be left.

4. Cost of 18 books = ₹ 9972
∴ Cost of one books = ₹ 9972 ÷ 18
= ₹ 554

$$\begin{array}{r} 554 \\ 18\overline{)\,9972} \\ -90 \\ \hline 97 \\ -\ 90 \\ \hline 72 \\ -72 \\ \hline 0 \end{array}$$

Hence, cost of one book is ₹ 554.

5. 38 bags weigh = 2470 kg
∴ Each bag weighs = (2470 ÷ 38) kg
= 65 kg

$$\begin{array}{r} 65 \\ 38\overline{)\,2470} \\ -228 \\ \hline 190 \\ -\ 190 \\ \hline 0 \end{array}$$

Thus, each bag weighs 65 kg.

6. Here, Quotient = 171, Remainder = 10, divisor = 25
∴ Dividend = Quotient × divisor + remainder
= 171 × 25 + 10 = 4275 + 10 = 4285
So, the number is 4285.

Activity-6

1. 34 is rounded off to 30 (nearest tens).
   30 ÷ 5 gives 6 as quotient. So, the quotient should be nearly 6.
2. 179 is rounded off to 180 (nearest tens) and 18 is rounded off to 20 (nearest tens).
   180 ÷ 20 gives 9 as quotient. So, the quotient should be nearly 9.
3. 393 is rounded off to 390 (nearest tens) and 17 is rounded off to 20 (nearest tens).
   393 ÷ 20 gives 19 as quotient. So, the quotient should be nearly 19.
4. 247 is rounded off to 250 (nearest tens) and 47 is rounded off to 50 (nearest tens).
   250 ÷ 50 gives 5 as quotient. So, the quotient should be nearly 5.
5. 57 is rounded off to 60 (nearest tens)
   60 ÷ 6 gives 10 as quotient. So, the quotient should be nearly 10.
6. 438 is rounded off to 440 (nearest tens) and 24 is rounded off to 20 (nearest tens).
   440 ÷ 20 gives 22 as quotient. So, the quotient should be nearly 22.
7. 579 is rounded off to 580 (nearest tens) and 35 is rounded off to 40 (nearest tens).
   580 ÷ 40 gives 14 as quotient. So, the quotient should be nearly 14.
8. 810 is rounded off to 800 (nearest hundreds) and 52 is rounded off to 50 (nearest tens).
   800 ÷ 50 gives 16 as quotient. So, the quotient should be nearly 16.

Mental Maths Corner

1. **(a)** (i) **(b)** (ii) **(c)** (iii) **(d)** (ii)
2. **(a)** 1 **(b)** 1 **(c)** 0 **(d)** 1934
   (e) Q = 32, R = 8 **(f)** Q = 6, R = 76 **(g)** Q = 8, R = 275

Review Exercise

1. **(a)**

```
      296
12 ) 3556
     -24
     115
    -108
      76
     -72
       4
```

Q = 296, R = 4

Checking :

```
   2 9 6
   × 1 2
   5 9 2
 2 9 6 0
 3 5 5 2
       + 4
 3 5 5 6
```

(b)

```
      261
24 ) 6286
     -48
     148
    -144
      46
     -24
      22
```

Q = 261,
R = 22

Checking :

```
    2 6 1
  × 2 4
  1 0 4 4
  5 2 2 0
  6 2 6 4
    + 2 2
  6 2 8 6
```

(c)

```
      2922
34 ) 99354
     -68
     313
    -306
      75
     -68
      74
     -68
       6
```

Q = 2922,
R = 6

Checking :

```
    2 9 2 2
  × 3 4
  1 1 6 8 8
  8 7 6 6 0
  9 9 3 4 8
    + 6
  9 9 3 5 4
```

(d)

```
      153
64 ) 9822
     -64
     342
    -320
     222
    -192
      30
```

Q = 153,
R = 30

Checking :

```
    1 5 3
  × 6 4
    6 1 2
  9 1 8 0
  9 7 9 2
    + 3 0
  9 8 2 2
```

(e)

```
       95
56 ) 5346
     -504
      306
     -280
       26
```

Q = 95,
R = 26

Checking :

```
      9 5
    × 5 6
      5 7 0
  4 7 5 0
  5 3 2 0
    + 2 6
  5 3 4 6
```

(f)

```
      138
13 ) 1797
     -13
     ---
      49
     -39
     ---
      107
     -104
     ----
        3
```

Q = 138,
R = 3

Checking :

```
    1 3 8
  × 1 3
  -------
    4 1 4
1 3 8 0
-------
1 7 9 4
      + 3
-------
1 7 9 7
-------
```

(g)

```
      1303
18 ) 23456
     -18
     ---
      54
     -54
     ---
       056
      -54
      ---
         2
```

Q = 1303,
R = 2

Checking :

```
    1 3 0 3
  × 1 8
  -------
1 0 4 2 4
1 3 0 3 0
---------
2 3 4 5 4
      + 2
---------
2 3 4 5 6
---------
```

(h)

```
      3093
27 ) 83528
     -81
     ---
      252
     -243
     ----
        98
       -81
       ---
        17
```

Q = 3093,
R = 17

Checking :

```
    3 0 9 3
  × 2 7
  -------
2 1 6 5 1
6 1 8 6 0
---------
8 3 5 1 1
      + 1 7
---------
8 3 5 2 8
---------
```

2. Other number = 6256 ÷ 17

= 368

Thus, other number is 368.

```
      368
17 ) 6256
     -51
     ---
      115
     -102
     ----
       136
      -136
      ----
         0
```

3. 60 minutes = 1 hours

$\therefore$ 1 minute = $\frac{1}{60}$ hour

$\therefore$ 7260 minutes = (7260 ÷ 60) hours

= 121 hours

Hence, 7260 minutes = 121 hours.

```
      121
60 ) 7260
     -60
     126
    -120
      60
     -60
       0
```

4. Here, divisor = 35, quotient = 161, remainder = 1

$\therefore$ dividend = quotient × divisor + remainder

= 161 × 35 + 1

= 5635 + 1

= 5636

So, the dividend is 5636.

5. Number of pages used by Tanveer = 2135 ÷ 35 = 61

So, Tanveer used 61 pages.

```
      61
35 ) 2135
    -210
      35
     -35
       0
```

HOTS

The largest 5-digit number is 99999.

First we check whether it is divisible by 14 or not.

99999 ÷ 14 gives 7142 as quotient and 11 as remainder.

So, 99999 – 11 = 99988

99988 is exactly divisible by 14

So, the largest 5-digit number exactly divisible by 14 is 99988.

```
      7142
14 ) 99999
     -98
      19
     -14
      59
     -56
      39
     -28
      11
```