EXERCISE 4.4

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1. Does there exist a whole number a such that a ÷ a = a?
Solution:

Yes. There exists a whole number 'a' such that a ÷ a = a.
We know that the whole number is 1 where 1 ÷ 1 = 1.

2. Find the value of:
(i) 23457 ÷ 1
(ii) 0 ÷ 97
(iii) 476 + (840 ÷ 84)
(iv) 964 – (425 ÷ 425)
(v) (2758 ÷ 2758) – (2758 ÷ 2758)
(vi) 72450 ÷ (583 – 58)
Solution:

(i) 23457 ÷ 1
By division
23457 ÷ 1 = 23457

(ii) 0 ÷ 97
By division
0 ÷ 97 = 0

(iii) 476 + (840 ÷ 84)
On further calculation
476 + (840 ÷ 84) = 476 + 10
= 486

(iv) 964 – (425 ÷ 425)
On further calculation
964 – (425 ÷ 425) = 964 – 1
= 963

(v) (2758 ÷ 2758) – (2758 ÷ 2758)
On further calculation
(2758 ÷ 2758) – (2758 ÷ 2758) = 1 – 1
= 0

(vi) 72450 ÷ (583 – 58)
On further calculation
72450 ÷ (583 – 58) = 72450 ÷ 525
= 138

3. Which of the following statements are true:
(i) 10 ÷ (5 × 2) = (10 ÷ 5) × (10 ÷ 2)
(ii) (35 – 14) ÷ 7 = 35 ÷ 7 – 14 ÷ 7
(iii) 35 – 14 ÷ 7 = 35 ÷ 7 – 14 ÷ 7
(iv) (20 – 5) ÷ 5 = 20 ÷ 5 – 5

(v) 12 × (14 ÷ 7) = (12 × 14) ÷ (12 × 7)
(vi) (20 ÷ 5) ÷ 2 = (20 ÷ 2) ÷ 5
Solution:

(i) False.
We know that
LHS = 10 ÷ (5 × 2)
So we get
= 10 ÷ 10
= 1

RHS = (10 ÷ 5) × (10 ÷ 2)
So we get
= 2 × 5
= 10

(ii) True.
We know that
LHS = (35 – 14) ÷ 7
So we get
= 21 ÷ 7
= 3

RHS = 35 ÷ 7 – 14 ÷ 7
So we get
= 5 – 2
= 3

(iii) False.
We know that
LHS = 35 – 14 ÷ 7
So we get
= 35 – 2
= 33

RHS = 35 ÷ 7 – 14 ÷ 7
So we get
= 5 – 2
= 3

(iv) False.
We know that
LHS = (20 – 5) ÷ 5
So we get
= 15 ÷ 5
= 3

RHS = 20 ÷ 5 – 5
So we get
= 4 – 5

= - 1

(v) False.
We know that
LHS = 12 × (14 ÷ 7)
So we get
= 12 × 2
= 24

RHS = (12 × 14) ÷ (12 × 7)
So we get
= 168 ÷ 84
= 2

(vi) True.
We know that
LHS = (20 ÷ 5) ÷ 2
So we get
= 4 ÷ 2
= 2

RHS = (20 ÷ 2) ÷ 5
So we get
= 10 ÷ 5
= 2

4. Divide and check the quotient and remainder:
(i) 7772 ÷ 58
(ii) 6906 ÷ 35
(iii) 16135 ÷ 875
(iv) 16025 ÷ 1000
Solution:

(i) 7772 ÷ 58

```
         134
58 |    7772|
         -58
        ----
         197
        -174
        ----
         232
        -232
        ----
           0
        ----
```

So we get 7772 ÷ 58 = 134
By verifying
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
7772 = 58 × 134 + 0

So we get
7772 = 7772
LHS = RHS

(ii) 6906 ÷ 35

```
      197
35 | 6906
     -35
     340
    -315
     256
    -245
      11
```

So we get quotient = 197 and remainder = 11
By verifying
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
6906 = 35 × 197 + 11
On further calculation
6906 = 6895 + 11
We get
6906 = 6906
LHS = RHS

(iii) 16135 ÷ 875

```
      18
875 | 16135
     -875
     7385
    -7000
      385
```

So we get quotient = 18 and remainder = 385
By verifying
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
16135 = 875 × 18 + 385
On further calculation
16135 = 15750 + 385
We get
16135 = 16135
LHS = RHS

(iv) 16025 ÷ 1000

```
          16
1000 | 16025
       -1000
       ------
         6025
        -6000
        -----
           25
```

So we get quotient = 16 and remainder = 25
By verifying
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
16025 = 1000 × 16 + 25
On further calculation
16025 = 16000 + 25
We get
16025 = 16025
LHS = RHS

5. Find a number which when divided by 35 gives the quotient 20 and remainder 18.
Solution:

We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
Dividend = 35 × 20 + 18
On further calculation
Dividend = 700 + 18
So we get
Dividend = 718

6. Find the number which when divided by 58 gives a quotient 40 and remainder 31.
Solution:

We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
Dividend = 58 × 40 + 31
On further calculation
Dividend = 2320 + 31
So we get
Dividend = 2351

7. The product of two numbers is 504347. If one of the numbers is 1591, find the other.
Solution:

The product of two numbers = 504347
One of the numbers = 1591
Consider A as the number

A × 1591 = 504347
So by division
A = 317

```
        317
1591 | 504547
      -4773
       2704
      -1591
       11137
      -11137
           0
```

8. On dividing 59761 by a certain number, the quotient is 189 and the remainder is 37. Find the divisor.
Solution:

It is given that
Dividend = 59761
Quotient = 189
Remainder = 37
Consider Divisor = A
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
59761 = A × 189 + 37
On further calculation
59761 – 37 = A × 189
So we get
59724 = A × 189
By division
A = 316

9. On dividing 55390 by 299, the remainder is 75. Find the quotient.
Solution:

It is given that
Dividend = 55390
Quotient = 299
Remainder = 75
Consider Divisor = A
We know that
Dividend = Divisor × Quotient + Remainder
By substituting values
55390 = A × 299 + 75
On further calculation
55390 – 75 = A × 299
So we get
55315 = A × 299

By division
A = 185