

EXERCISE 3.1

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1. Write each of the following as decimals:**(i) $(8/100)$** **(ii) $20 + (9/10) + (4/100)$** **(iii) $23 + (2/10) + (6/1000)$** **Solution:****(i) Given $(8/100)$**

Mark the decimal point two places from right to left

$$(8/100) = 0.08$$

(ii) Given $20 + (9/10) + (4/100)$ First convert the fractions $(9/10)$ and $(4/100)$ to decimalsConsider $(9/10)$

Mark the decimal point one place from right to left

$$(9/10) = 0.9$$

Now consider $(4/100)$

Mark the decimal point two places from right to left

$$(4/100) = 0.04$$

$$20 + (9/10) + (4/100) = 20 + 0.9 + 0.04$$

$$= 20.94$$

(iii) Given $23 + (2/10) + (6/1000)$ First convert the fractions $(2/10)$ and $(6/1000)$ to decimalsConsider $(2/10)$

Mark the decimal point one place from right to left

$$(2/10) = 0.2$$

Now consider $(6/1000)$

Mark the decimal point three places from right to left

$$(6/1000) = 0.006$$

$$23 + (2/10) + (6/1000) = 23 + 0.2 + 0.006$$

$$= 23.206$$

2. Convert each of the following decimals as fractions:**(i) 0.04****(ii) 2.34**

(iii) 0.342

(iv) 17.38

Solution:

(i) Given 0.04

Here we have to convert given decimals into fractions

0.04 can be written as $(0.04/1)$

Now multiply both numerator and denominator by 100 then we get

$$(0.04/1) = (0.04 \times 100 / 1 \times 100)$$

$$= (4/100)$$

$$= (1/25)$$

(ii) Given 2.34

Here we have to convert given decimals into fractions

2.34 can be written as $(2.34/1)$

Now multiply both numerator and denominator by 100 then we get

$$(2.34/1) = (2.34 \times 100 / 1 \times 100)$$

$$= (234/100)$$

$$= (117/50)$$

(iii) Given 0.342

Here we have to convert given decimals into fractions

0.342 can be written as $(0.342/1)$

Now multiply both numerator and denominator by 1000 then we get

$$(0.342/1) = (0.342 \times 1000 / 1 \times 1000)$$

$$= (342/1000)$$

$$= (171/500)$$

(iv) Given 17.38

Here we have to convert given decimals into fractions

17.38 can be written as $(17.38/1)$

Now multiply both numerator and denominator by 100 then we get

$$(17.38/1) = (17.38 \times 100 / 1 \times 100)$$

$$= (1738/100)$$

$$= (869/50)$$

3. Express the following fractions as decimals:

(i) $(23/10)$

(ii) $25 (1/8)$

(iii) $39 (7/35)$

(iv) $15 (1/25)$

Solution:

(i) Given $(23/10)$

Divide 23 by 10 we get

$$(23/10) = 2.3$$

(ii) Given $25 (1/8)$

$25 (1/8)$ can be written as

$$25 (1/8) = 25 + (1/8)$$

Consider $(1/8)$,

Now multiply both numerator and denominator by 125 to get 1000 as denominator

$$25 (1/8) = 25 + (1/8) = 25 + (1 \times 125 / 8 \times 125)$$

$$= 25 + (125/1000)$$

$$= 25 + 0.125$$

$$= 25.125$$

(iii) Given $39 (7/35)$

First convert given mixed fraction $39 (7/35)$ into improper fraction

$$39 (7/35) = 1372/35$$

By dividing we get

$$39 (7/35) = 39.2$$

(iv) Given $15 (1/25)$

$15 (1/25)$ can be written as

$$15 (1/25) = 15 + (1/25)$$

Consider $(1/25)$,

Now multiply both numerator and denominator by 4 to get 100 as denominator

$$15 (1/25) = 15 + (1/25) = 15 + (1 \times 4 / 25 \times 4)$$

$$= 15 + (4/100)$$

$$= 15 + 0.04$$

$$= 15.04$$

4. Add the following:

(i) 41.8, 39.24, 5.01 and 62.6

(ii) 18.03, 146.3, .829 and 5.324

Solution:

(i) Given 41.8, 39.24, 5.01 and 62.6

$$\begin{array}{r} 41.8 \\ 39.24 \\ 5.01 \\ + 62.6 \\ \hline 148.65 \end{array}$$

(ii) Given 18.03, 146.3, 0.829 and 5.324

$$\begin{array}{r} 18.03 \\ 146.3 \\ 0.829 \\ + 5.324 \\ \hline 170.483 \end{array}$$

5. Find the value of:

(i) $9.756 - 6.28$

(ii) $48.1 - 0.37$

(iii) $108.032 - 86.8$

(iv) $100 - 26.32$

Solution:

(i) Given $9.756 - 6.28$

$$\begin{array}{r} 9.756 \\ - 6.28 \\ \hline 3.476 \end{array}$$

(ii) Given $48.1 - 0.37$

$$\begin{array}{r} 48.1 \\ - 0.37 \\ \hline 47.73 \end{array}$$

(iii) Given $108.032 - 86.8$

$$\begin{array}{r} 108.032 \\ - \quad 86.8 \\ \hline 21.232 \end{array}$$

(iv) Given $100 - 26.32$

$$\begin{array}{r} 100.00 \\ - \quad 26.32 \\ \hline 73.68 \end{array}$$

6. Take out of 3.547 from 7.2**Solution:**

Given 3.547 from 7.2

$$\begin{array}{r} 7.2 \\ - \quad 3.547 \\ \hline 3.653 \end{array}$$

7. What is to be added to 36.85 to get 59.41?**Solution:**

Given 36.85 and 59.41

Let the unknown number be x

$$x + 36.85 = 59.41$$

$$x = 59.41 - 36.85$$

$$x = 22.56$$

Hence 22.56 is to be added to 36.85 to get 59.41

8. What is to be subtracted from 17.1 to get 2.051?**Solution:**

Let the unknown number be x

Given that x is to be subtracted from 17.1 to get 2.051

$$17.1 - x = 2.051$$

$$17.1 - 2.051 = x$$

$$x = 17.1 - 2.051$$

$$x = 15.049$$

9. By how much should 34.79 be increased to get 70.15?

Solution:

Let x be the unknown number

$$x + 34.79 = 70.15$$

$$x = 70.15 - 34.79$$

$$x = 35.36$$

35.36 should be increased to 34.79 to get 70.15

10. By how much should 59.71 be decreased to get 34.58?

Solution:

Let x be the unknown number

$$59.71 - x = 34.58$$

$$59.71 - 34.58 = x$$

$$x = 59.71 - 34.58$$

$$x = 25.13$$

25.13 should be decreased by 59.71 to get 34.58