

Decimals

Exercise 7.1

Question: 1

Write the following decimals in the place value table:

	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousand
(i)			5	2	5		
(ii)			1	2	5	7	
(iii)			1	5	0	5	
(iv)			7	4	0	5	9
(v)					5	0	3

The given decimals can be written as above in the place-value table

Solution:

	Decimals	Tens	Ones	Tenths	Hundredths	Thousand
(i)	52.5	5	2	5		
(ii)	12.5	1	2	5	7	
(iii)	15.05	2	5	0	5	
(iv)	74.059	7	2	0	5	9
(v)	0.503		0	5	0	3

Question: 2

The decimals shown in the above place value table can be written as follows:

(i) 307.12

(ii) 9543.025

(iii) 12.503

Solution:

	Thousands	Hundrends	Tens	Ones	Tenths	Hundredths	Thusandths
(i)		3	0	7	1	2	
(ii)	9	5	4	3	0	2	5
(iii)			1	2	5	0	3

Question: 3

Write each of the following as decimals:

i) One hundred seventy five and four hundredths.

ii) Zero and twenty one hundredths

iii) Nine and four thousandths

iv) Zero and four hundred fifty nine thousandths

Solution:

i) 175.04

ii) 0.21

iii) 0.459

Question: 4

i) $65 + \frac{2}{10} + \frac{7}{100}$

ii) $45 + \frac{9}{100}$

iii) $88 + \frac{5}{10} + \frac{2}{1000}$

iv) $\frac{3}{10} + \frac{7}{1000}$

Solution:

- i) We have 6 tens, 5 ones and 7 hundredths. Therefore, the decimal number is 65.27
- ii) We have 4 tens, 5 ones and 9 hundredths. Therefore, the decimal number is 45.09
- iii) We have 8 tens, 8 ones, 5 tenths and 2 thousandths. Therefore, the decimal number is 88.502
- iv) We have 3 tenths, 5 ones and 7 hundredths. Therefore, the decimal number is 0.307

Question: 5

Write each of the following as decimals

- i) Five and four tenths
- ii) Twelve four hundredths
- iii) Nine and seven hundred five thousandths
- iv) Zero point five two six
- v) Forty seven and six thousandths
- vi) Eight thousandths
- vii) Nineteen and nineteen hundredths

Solution:

- i) $5 + \frac{4}{10} = 5.4$
- ii) $12 + \frac{4}{100} = 12.4$
- iii) $9 + \frac{705}{1000} = 9.705$
- iv) 0.526
- v) $47 + \frac{6}{1000} = 47.006$
- vi) $\frac{8}{1000} = 0.008$
- vii) $19 + \frac{13}{100} = 19.13$

Exercise 7.2

Question: 1

- i) Three tenths
- ii) Two ones and five tenths
- iii) Thirty and one tenths
- iv) Twenty two and six tenths
- v) One hundred, two ones and three tenths

Solution:

- i) $3/10 = 0.3$
- ii) $2 + 5/10 = 2.5$
- iii) $30 + 1/10 = 30.1$
- iv) $22 + 6/10 = 22.6$
- v) $100 + 2 + 3/10 = 102.3$

Question: 2

- i) $30 + 6 + \frac{2}{10}$
- ii) $700 + 5 + \frac{7}{10}$
- iii) $100 + 60 + 5 + \frac{1}{10}$
- iv) $200 + 70 + 9 + \frac{5}{10}$

Solution:

- i) We have 3 tens, 6 ones and 2 tenths. Therefore, the decimal is 36.2
- ii) We have 7 hundreds, 5 ones and 7 tenths. Therefore the decimal is 705.7
- iii) We have 2 hundreds, 6 tens, 5 ones and 1 tenths. Therefore the decimal is 265.1
- iv) We have 2 hundreds, 7 tens, 9 ones and 5 tenths. Therefore, the decimal is 279.5

Question: 3

- i) $22/10$
- ii) $3/2$
- iii) $2/5$

Solution:

i) Since the denominator is ten, the decimal is 2.2

ii) Making the denominator 10, we have $\frac{3}{2}$

$$3(52)(5) = 1510 = 1.5$$

iii) Making the denominator 10, we have $\frac{2}{5}$

$$2(25)(2) = 410 = 0.4$$

Question: 4

$$\text{i) } \frac{4}{0} 25$$

$$\text{ii) } \frac{3}{9} 210$$

$$\text{iii) } \frac{4}{3} 5$$

$$\text{iv) } \frac{2}{5} 12$$

Solution:

i) To write in decimal, we need to make the denominator 10 by multiplying it by a number. But, to maintain the value of the fraction, we should also multiply the numerator by the same number. Thus, we get

$$= 40 + 2(25)(2) = 40 + 410 = 40.4$$

$$\text{ii) } 39210 = 39 + 210$$

Here, the denominator is 10 .

Therefore, the decimal is 39.2

$$\text{iii) } 435 = 4 + 35$$

To write in decimal, we need the denominator by 10 by multiplying it by a number. but, to maintain the value of the fraction, we should also multiply the numerator by the same number. Thus we get,

$$= 4 + 3(3)(25)(2)$$

$$= 4 + 610 = 4.6$$

$$\text{iv) } 2512 = 25 + 12$$

To write in decimal, we need to make the denominator 10 by multiplying it by a number. But, to maintain the value of the fraction, we should also multiply the numerator by the same number. Thus, we get

$$= 25 + 1(52)(5)$$

$$= 25 + 510 = 25.5$$

Question: 5

$$\text{i) } 3.8$$

$$\text{ii) } 21.2$$

$$\text{iii) } 6.4$$

$$\text{iv) } 1$$

Solution:

$$\text{i) } 3.8$$

$$= 3 + 8 \text{ tenths}$$

$$= 3 + 810$$

$$= 3(1010) + 810 = 3010 + 810 = 3810 = 195$$

$$\text{ii) } 21.2$$

$$= 21 + 2 \text{ tenths}$$

$$= 21 + 210 = 21(1010) + 210 = 21010 + 210 = 21210 = 1065$$

$$\text{iii) } 6.4$$

$$= 6 + 4 \text{ tenths}$$

$$= 6 + 410$$

$$= 6(1010) + 410 = 6010 + 410 = 325$$

$$\text{iv) } 1$$

Since the only number after the decimal is 0, the fraction is 1

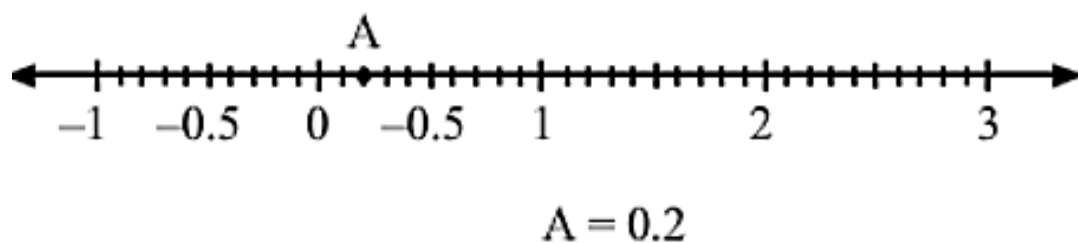
Question: 6

Represent the following number on the number line.

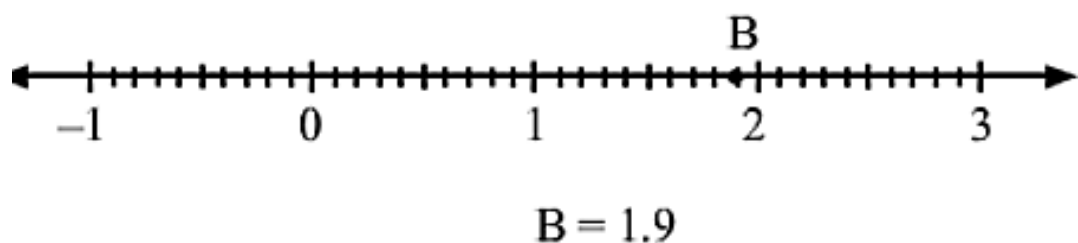
- i) 0.2
- ii) 1.9
- iii) 1.1
- iv) 2.5

Solution:

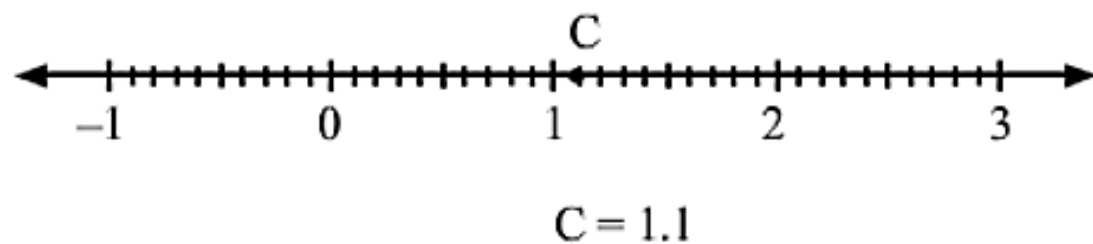
i)



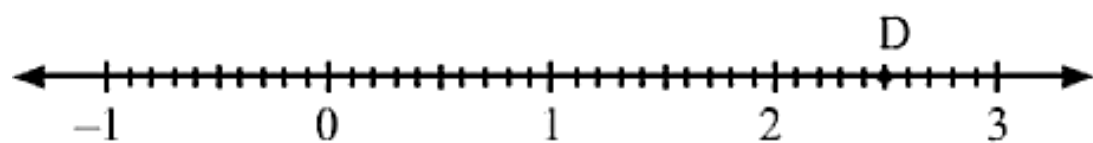
ii)



iii)



iv)



Question: 7

- i) 0.8 is between the two whole numbers 0 and 1
- ii) 5.1 is between the two whole number 5 and 6.

iii) 2.6 is between 2 and 3

iv) 6.4 is between 6 and 7

Solution:

i) As 0.8 is 8 units from 0 and 2 units from 1, it is nearer to 1

ii) As 5.1 is 1 unit from 5 and 9 units from 6, it is nearer to 5

iii) As 2.6 is 6 units from 2 and 4 units from 3, it is nearer to 3

iv) As 6.4 is 4 units from 6 and 6 units from 7, it is nearer to 6

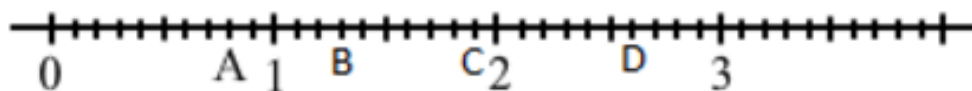
9.0 is itself a whole number, that is 9

4.9 is between 4 and 5

As 4.9 is 9 units from 4 and 1 unit from 5, it is nearer to 5

Question: 8

Write the decimal number represented by the points on the given number line A, B, C, D



Solution:

A) 0.8, since A is at the eighth place between 0 and 1

B) 1.3, since B is at the third place between 1 and 2

C) 1.9, since C is at the ninth place between 1 and 2

D) 2.6, since D is at the sixth place between 2 and 3

Disclaimer: the image given in the book is not consistent; as the number of periods between 0 and 1 is ten but the number of periods between 1 and 2 are seven. So, ignoring the position of the given numbers 1, 2 and 3. it has been assumed that there are ten periods between every two consecutive numbers starting from the first point taken as zero.

Exercise 7.3

Question: 1

- i) Five hundred twenty five and forty hundredths
- ii) Twelve and thirty five thousandths
- iii) Fifteen and seventeen thousandths
- iv) Eighty eight and forty eight hundredths

Solution:

- i) $525 + 40/100 = 525.40$
- ii) $12 + 35/1000 = 12.035$
- iii) $15 + 17/1000 = 15.017$
- iv) $88 + 48/100 = 88.48$

Question: 2

- i) $137 + \frac{5}{100}$
- ii) $\frac{20 + 9 + 4}{100}$

Solution:

- i) We have 1 hundred, 3 tens, 7 ones and 5 hundredths. Therefore, the decimal is 137.05
- ii) We have 2 tens, 9 ones and 4 hundredths. Therefore, the decimal is 29.04

Question: 3

- i) $8/100$
- ii) $300/1000$
- iii) $18/1000$
- iv) $208/100$

Solution:

- i) We have 8 hundredths. Therefore, the decimal is 0.08
- ii) In its lowest form, the fraction is $3/10$. We have 3 tenths. Therefore, the

decimal is 0.3

iii) We have eighteen thousandths. Therefore the decimal is 0.018

iv) $208100 = 200100 + 8100 = 2 + 8100$

We have 2 and 8 hundredths. Therefore, the decimal is 2.08

$888/1000$

$8881000 = 8001000 + 801000 + 81000 = 810 + 8100 + 81000$

We have 8 tenths, 8 hundredths and 8 thousandths. Therefore, the decimal is 0.888

Question: 4

i) $12\frac{1}{4}$

ii) $718 = 7 + 18$

iii) $5120 = 5 + 120$

Solution:

i) $1214 = 12 + 14$

$= 12 + 254(25) = 12 + 25100 = 12.25$

ii) $7 + 1(1258)(125) = 7 + 1251000 = 7.125$

iii) $5 + 1(520)(5) = 5 + 510 = 5.05$

Question: 5

i) 0.04

ii) $7\frac{1}{8}$

iii) $5\frac{1}{20}$

iv) 1.20

v) 17.38

Solution:

i)

$$= 0 + 0.04$$

$$= 0 + 4 \text{ hundredths}$$

$$= 0 + 4100$$

$$= 125$$

ii)

$$2.34$$

$$= 2 + 0.34$$

$$= 2 + 34 \text{ hundredths}$$

$$= 2 + 34100$$

$$= 2(100100) + 34100$$

$$= 200100 + 34100$$

$$= 234100$$

$$= 11750$$

iii)

$$0.342$$

$$= 0 + 342 \text{ thousandths}$$

$$= 3421000$$

$$= 171500$$

iv)

$$= 1 + 0.20$$

$$= 1 + 20 \text{ hundredths}$$

$$= 1 + 20100$$

$$= 100100 + 20100$$

$$= 120100$$

$$= 65$$

v)

$$\begin{aligned}
&= 17 + 0.38 \\
&= 17 + 38 \text{ hundredths} \\
&= 17 + 38100 \\
&= 17(100100) + 38100 \\
&= 1700100 + 38100 \\
&= 1738100 \\
&= 86950
\end{aligned}$$

Question: 6

- i) 2 tens, 9 ones, 4 tenths and 1 hundredths.
- ii) 3 tens, we have 3 tens, 4 tenths, 8 hundredths and 3 thousandths.
- iii) 1 hundred, 3 tens, 7 ones and 5 hundredths.
- iv) 7 tenths, 6 hundredths and 4 thousandths.
- v) 2 tens, 3 ones, 2 tenths and 6 thousandths.
- vi) 7 hundreds, 2 tens, 5 ones and 9 hundredths.

Solution:

- i) Here, we have 2 tens, 9 ones, 4 tenths and 1 hundredths. Therefore, the decimal is 29.41
- ii) Here, we have 3 tens, we have 3 tens, 4 tenths, 8 hundredths and 3 thousandths. Therefore, the decimal is 30.483
- iii) Here, we have 1 hundred, 3 tens, 7 ones and 5 hundredths. Therefore, the decimal is 137.05
- iv) Here, we have 7 tenths, 6 hundredths and 4 thousandths . Therefore, the decimal is 0.764
- v) Here, we have 2 tens, 3 ones, 2 tenths and 6 thousandths. Therefore, the decimal is 23.206
- vi) Here, we have 7 hundreds, 2 tens, 5 ones and 9 hundredths. Therefore, the decimal is 725.09

Exercise 7.4

Question: 1

Express the following fractions as decimals:

i) $\frac{23}{10}$

ii) $\frac{139}{100}$

iii) $\frac{4375}{1000}$

iv) $12\frac{1}{2}$

v) $75\frac{1}{4}$

vi) $25\frac{1}{8}$

vii) $18\frac{3}{24}$

viii) $\frac{3}{9}735$

ix) $\frac{1}{5}125$

x) $\frac{111}{250}$

Solution:

i) $2310 = 20 + 310 = 2010 + 310 = 2 + 310 = 2.3$

ii) $139100 = 10 + 30 + 9100 = 100100 + 30100 + 9100 = 1 + 310 + 9100 = 1.39$

iii) $43751000 = 4000 + 300 + 70 + 51000 = 40001000 + 3001000 + 701000 + 51000 = 4 + 310 + 7100 + 51000 = 4.375$

iv) $1212 = 12 + 12 = 12 + 1(52)(5) = 12 + 510 = 12.5$

v) $7514 = 75 + 14 = 75 + 1(254)(25) = 75 + 25100 = 75.25$

vi) $2518 = 25 + 1(1258)(125) = 25 + 1251000 = 25.125$

vii) $18324 = 18 + 324 = 18 + 18 = 18 + 125(1125)(8) = 18 + 1251000 = 18.125$

$$\text{viii) } 39735 = 39 + 735 = 39 + 15 = 39 + 1(25)(2) = 39 + 210 = 39.2$$

$$\text{ix) } 15125 = 15 + 125 = 15 + 1(1)(425)(4) = 15 + 4100 = 15.04$$

$$\text{x) } 111250 = 111(4250)(4) = 4441000 = 0.444$$

Question: 2

Express the following decimals as fractions in the lowest form:

$$\text{i) } 0.5$$

$$\text{ii) } 2.5$$

$$\text{iii) } 0.60$$

$$\text{iv) } 0.18$$

$$\text{v) } 5.25$$

$$\text{vi) } 7.125$$

$$\text{vii) } 15.004$$

$$\text{viii) } 20.375$$

$$\text{ix) } 600.75$$

Solution:

$$\text{i) } 0.5 = \frac{5}{10} = \frac{1}{2}$$

$$\text{ii) } 2.5 = \frac{25}{10} = \frac{5}{2}$$

$$\text{iii) } 0.60 = \frac{60}{100} = \frac{3}{5}$$

$$\text{iv) } 0.18 = \frac{18}{100} = \frac{9}{50}$$

$$\text{v) } 5.25 = \frac{525}{100} = \frac{21}{4}$$

$$\text{vi) } 7.125 = \frac{7125}{1000} = \frac{201}{8}$$

$$\text{vii) } 15.004 = \frac{15004}{1000} = \frac{3751}{250}$$

$$\text{viii) } 20.375 = \frac{20375}{1000} = \frac{163}{8}$$

$$\text{ix) } 600.75 = \frac{60075}{100} = \frac{2403}{4}$$

Exercise 7.5

Question: 1

Fill in the blanks by using $>$ or $<$ to complete the following.

i) $25.35 > 8.47$

ii) $20.695 < 20.93$

iii) $0.39 < 0.72$

iv) $0.109 < 0.83$

v) $0.236 > 0.201$

vi) $0.93 < 0.99$

Solution:

i) Here, the whole part $23 > 8$

ii) Here the whole parts are equal. Hence, we should check the tenth parts. Now 9 is greater than 6.

$$\text{Therefore, } 20 + \frac{6}{10} + \frac{9}{100} + \frac{5}{1000} < 20 + \frac{9}{10} + \frac{3}{100}$$

iii) Here both the whole parts are 0. Hence, we should check the tenth part, now, $3 < 7$

iv) Here both the whole parts are 0. Hence, we should check the digit in the tenth parts $1 < 8$

v) Here both the whole parts are 0. Hence, we should check the tenth parts in the two numbers, which are again equal. So we should check the hundredth digit $3 > 0$

vi) Here both whole parts are 0. Hence, we should check the digits in the tenth place which is again equal. So, digit in the hundredth place $3 < 9$

Question: 2

Which is greater? Give reason for your answer?

i) $1.008 < 1.800$

ii) $3.3 = 3.300$

iii) $5.64 > 5.603$

iv) $1.431 < 1.439$

v) $0.5 > 0.05$

Solution:

i) The whole parts are equal, and comparing the tenth parts, we have $0 < 8$

ii) The whole parts and the tenth parts are both equal.

iii) The whole parts and the digit in the tenth place are equal. But, comparing the digits in the hundredth's place we get $4 > 0$

$$1.5 = 1.50$$

The whole parts and the digits in the tenth's place are equal.

iv) The whole parts, the digit in the tenth's and hundredth's place are equal. But comparing the digits in the thousandth's place $1 < 9$

v) Here the whole parts are both 0. Comparing the tenth's place, we have $5 > 0$

Exercise 7.6

Question: 1

Express as rupees (Rs) using decimals

- i) 15 paisa
- ii) 5 paisa
- iii) 350 paisa
- iv) 2 rupees 60 paisa

Solution:

i) We know that 100 paisa = Rs. 1

Therefore, 1 paisa = Rs. $\frac{1}{100}$

$$15 \text{ paisa} = \frac{15}{100}$$

$$= \text{Rs } 0.15$$

ii) We know that 100 paisa = Rs. 1

Therefore, 1 paisa = Rs. $\frac{1}{100}$

$$5 \text{ paisa} = \frac{5}{100}$$

$$= \text{Rs } 0.05$$

iii) We know that 100 paisa = Rs. 1

Therefore, 1 paisa = Rs. $\frac{1}{100}$

$$35 \text{ paisa} = \frac{350}{100}$$

$$= \text{Rs } 3.50$$

iv) We know that 100 paisa = Rs. 1

Therefore, 1 paisa = Rs. $\frac{1}{100}$

$$2 \text{ rupees } 60 \text{ paisa} = 2 + \frac{60}{100}$$

$$= \text{Rs } 2.60$$

Question: 2

Express as metres (m) using decimals

i) 15 cm

ii) 8 cm

iii) 135 cm

iv) 3 m 65 cm

Solution:

i) We know that 100 cm = 1m

Therefore 1 cm = $\frac{1}{100}$ m

$$15\text{cm} = 15\left(\frac{1}{100}\text{m}\right) = \frac{15}{100}\text{m}$$

$$= 0.15\text{ m}$$

ii) We know that 100 cm = 1m

Therefore 1 cm = $\frac{1}{100}$ m

$$8\text{ cm} = 8\left(\frac{1}{100}\text{m}\right) = \frac{8}{100}\text{m}$$

$$= 0.08\text{ m}$$

iii) We know that 100 cm = 1m

Therefore 1 cm = $\frac{1}{100}$ m

$$135\text{ cm} = 135\left(\frac{1}{100}\text{m}\right) = \frac{135}{100}\text{m}$$

$$= 1.35\text{ m}$$

iv) We know that 100 cm = 1m

Therefore 1 cm = $\frac{1}{100}$ m

$$3 \text{ m } 65\text{cm} = 3 + \frac{65}{100} \text{ m}$$

$$= 3.65 \text{ m}$$

Question: 3

Express as centimetre (cm) using decimals

i) 5 mm

ii) 60 mm

iii) 175 mm

iv) 4 cm 5 mm

Solution:

i) We know that 10 mm = 1cm

Therefore 1 mm = $\frac{1}{10}$ cm

$$5 \text{ mm} = \frac{5}{10} \text{ cm}$$

$$= 0.5 \text{ cm}$$

ii) We know that 10 mm = 1cm

Therefore 1 mm = $\frac{1}{10}$ cm

$$60 \text{ mm} = \frac{60}{10} \text{ cm}$$

$$= 6 \text{ cm}$$

iii) We know that 10 mm = 1cm

Therefore 1 mm = $\frac{1}{10}$ cm

$$175 \text{ mm} = \frac{175}{10} \text{ cm}$$

$$= 17.5 \text{ cm}$$

iv) We know that 10 mm = 1cm

Therefore 1 mm = $\frac{1}{10}$ cm

$$4 \text{ cm } 5 \text{ mm} = 4 + \frac{5}{10}$$

$$= 4.5 \text{ cm}$$

Question: 4

Express as kilogram (km) using decimals

i) 5 m

ii) 55 m

iii) 555 m

iv) 5555 m

v) 15 km 35 m

Solution:

i) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $1\text{m} = 1/1000 \text{ km}$

$$5 \text{ m} = 5/1000 \text{ km}$$

$$= 0.005 \text{ km}$$

ii) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $1\text{m} = 1/1000 \text{ km}$

$$55 \text{ m} = 55/1000 \text{ km}$$

$$= 0.055 \text{ km}$$

iii) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $1\text{m} = 1/1000 \text{ km}$

$$555 \text{ m} = 555/1000 \text{ km}$$

$$= 0.555 \text{ km}$$

iv) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $1\text{m} = 1/1000 \text{ km}$

$$5\text{m} = 5/1000 \text{ km}$$

$$= 5.555 \text{ km}$$

v) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $1 \text{ m} = \frac{1}{1000} \text{ km}$

$15 \text{ km } 35 \text{ m} = 15 + \frac{35}{1000}$

$= 15.035 \text{ km}$

Question: 5

Express each of the following without using decimals

i) 8g

ii) 150 g

iii) 2750 g

iv) 5 kg 750 g

v) 36 kg 50 g

Solution:

i) We know that $1000 \text{ g} = 1 \text{ kg}$

Therefore $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

$8 \text{ g} = \frac{8}{1000} \text{ kg}$

$= 0.008 \text{ kg}$

ii) We know that $1000 \text{ g} = 1 \text{ kg}$

Therefore $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

$150 \text{ g} = \frac{150}{1000} \text{ kg}$

$= 0.150 \text{ kg}$

iii) We know that $1000 \text{ g} = 1 \text{ kg}$

Therefore $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

$2750 \text{ g} = \frac{2750}{1000} \text{ kg}$

$= 2.750 \text{ kg}$

iv) We know that $1000 \text{ g} = 1 \text{ kg}$

Therefore $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

$5 \text{ kg } 750 \text{ g} = 5 + \frac{750}{1000}$

$= 5.750 \text{ kg}$

v) We know that $1000 \text{ g} = 1 \text{ kg}$

Therefore $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

$36 \text{ kg } 50 \text{ g} = 36 + \frac{50}{1000}$

$= 36.050 \text{ kg}$

Question: 6

Express each of the following without using decimals

i) Rs.5.25

ii) 8.354 kg

iii) 3.05 km

iv) 7.54 m

v) 15.005 kg

vi) 12.05 m

Solution:

i) We know $100 \text{ paisa} = 1 \text{ rupee}$

So, $1 \text{ paisa} = \frac{1}{100} \text{ rupee}$

Therefore, $\text{Rs } 5.25 = 5 + 0.25$

$= 5 + \frac{25}{100} = \text{Rs } 5 \text{ and } 25 \text{ paisa}$

ii) We know that $1000 \text{ g} = 1 \text{ kg}$

So $1 \text{ g} = \frac{1}{1000} \text{ kg}$

Therefore, $8.354 = 8 + 0.354 = 8 + \frac{354}{1000} = 8 \text{ kg } 354 \text{ g}$

1. 3.5 cm

We know that $10 \text{ mm} = 1 \text{ cm}$

So, $1 \text{ mm} = \frac{1}{10} \text{ cm}$

Therefore $3.5 = 3 + 0.5$

$= 3 + \frac{5}{10} = 3 \text{ cm } 5 \text{ mm}$

iii) We know that $1000 \text{ m} = 1 \text{ km}$

Therefore $3.05 = 3 + 0.05$

$$= 3 + \frac{5}{100}$$

$$= 3 + \frac{50}{1000} \text{ km}$$

$= 3 \text{ km } 50 \text{ m}$

iv) We know that $100 \text{ cm} = 1 \text{ m}$

Therefore $7.54 = 7 + 0.54$

$$= 7 + \frac{54}{100}$$

$= 7 \text{ m } 54 \text{ cm}$

v) We know that $1 \text{ kg} = 1000 \text{ g}$

Therefore, $15.005 = 15 + 0.005$

$$= 15 + \frac{5}{1000}$$

$= 15 \text{ kg } 5 \text{ g}$

vi) We know that $1 \text{ m} = 100 \text{ cm}$

Therefore $12.05 = 12 + 0.05$

$$= 12 + \frac{5}{100}$$

$= 12 \text{ m } 5 \text{ cm}$

Exercise 7.7

Question: 1

Choose the decimal(s) from the brackets which are not equivalent to the given decimals:

- i) 0.8 (0.80, 0.85, 0.800, 0.08)
- ii) 25.1 (25.01, 25.10, 25.100, 25.001)
- iii) 45.05 (45.050, 15.005, 45.500, 45.0500)

Solution:

- i) 0.85 and 0.08 are not equivalent to the given decimal .

In 0.85, we have 5 in the hundredth place, where as in 0.8 we have nothing in the hundredth place.

In 0.08, 0 is in the tenth place, whereas in 0.8, 8 is in the tenth place.

- ii) 25.01 and 25.001 are not equivalent to the given decimal.

In 25.01, 0 is in the tenth place, whereas in 25.1, 1 is in the tenth place.

- iii) In 45.005 and 45.500 are not equivalent to the given decimal.

In 45.005, 0 is in the hundredth place, whereas in 45.05, 5 is in the hundredth place.

In 45.500, 5 is in the tenth place, whereas in 45.05 is in the tenth place

Question: 2

Which of the following are like decimals?

Solution:

- i) 0.34, 0.07, 5.35, 24.70

Like decimals, since these have the same number of digits after the decimal point

- ii) 45.05, 4.505, 20.55, 20.5

Unlike decimals, since these have different number of digits after the decimal point

iii) 8.80, 17.08, 8.94, 0.27

Like decimals, since these have the same number of digits after the decimal point.

iv) 4.50, 16.80, 0.700, 7.08

Unlike decimals, since these have different number of digits after the decimal point.

Question: 3

Which of the following statements are correct?

Solution:

i) Correct since these two decimals have the same number of digits after the decimal point, only by 2

ii) Correct, since these three decimals have different numbers of digits after the decimal point.

iii) Incorrect, since these two decimals have different numbers of digits after the decimal point.

iv) Incorrect , since these three decimals have different numbers of digits after the decimal point.

v) Correct, since these three decimals have the same number of digits after the decimal point.

Question: 4

Convert each of the following sets of unlike decimals to like decimal:

Solution:

i) Of the two given decimals, 7.85 has more decimal points, i.e two, so we change 7.8 so that it has two decimal places.

Therefore, the like decimals are 7.80 and 7.85

ii) Of the two given decimals, 2.02 has more decimals places, i.e two, so we change 3.2 so that it has two decimal places.

Therefore, the like decimals are 2.02 and 3.20

iii) Of the three given decimals , 12.765 has the highest number of decimal places, i.e three, so we change the other two decimals so that they also have

three decimal places.

Therefore, like decimals are 0.600, 5.800 and 12.765

iv) Of the three given decimals, 5.296 has the highest number of decimal places, i.e three so we change the other two decimals so that they also have three decimal places.

Therefore, the like decimals are 5.296, 5.200 and 5.290

v) Among the three given decimals, 4.3294 has the highest number of decimal places, i.e four so we change all the decimals so that they also have four decimal places.

Therefore, the like decimals are 4.3294, 13.2900 and 132.9400

Exercise 7.8

Question: 1

Find the sum of the each of the following:

Solution:

$$\text{i) } 102.360 + 7.054 + 0.800$$

$$= 110.214$$

$$\text{ii) } 0.060 + 4.108 + 91.500$$

$$= 95.668$$

$$\text{iii) } 312.800 + 290.020 + 128.457$$

$$= 731.277$$

$$\text{iv) } 113.285 + 6.700 + 9.340 + 30.080$$

$$= 370.421$$

$$\text{v) } 18.0030 + 41.7000 + 10.9500 + 5.0570$$

$$= 75.7100$$

Question: 2

Add the following:

Solution:

$$\text{i) } 41.80 + 39.24 + 5.01 + 62.60$$

$$= 148.65$$

$$\text{ii) } 4.702 + 4.200 + 6.020 + 1.270$$

$$= 16.192$$

$$\text{iii) } 18.030 + 146.300 + 0.829 + 5.324$$

$$= 170.483$$

Question: 3

Find the sum of each of the following:

Solution:

$$\text{i) } 0.007 + 8.500 + 30.080$$

$$= 38.587$$

$$\text{ii) } 280.69 + 25.20 + 38.00$$

$$= 343.89$$

$$\text{iii) } 25.650 + 9.005 + 3.700 + 38.355$$

$$= 38.355$$

$$\text{iv) } 27.076 + 0.550 + 0.004$$

$$= 27.630$$

Question: 4

Radhika's mother gave her Rs.10.50 and her father gave her Rs.15.80. Find the total amount given to by her parents?

Solution:

Radhika's mother gave her Rs 10.50

Radhika's father gave her Rs 15.80

Total amount given to Radhika = $(10.50 + 15.80)$

= Rs 26.30

Question: 5

Rahul bought 4 kg 60 g of grapes and 5 kg 300 g of mangoes. Find the weight of the fruits he bought in all?

Solution:

Weight of the apples = 4 kg 90 g = 4.090 kg

Weight grapes = 2 kg 60 g = 2.060 kg

Weight of mangoes = 5 kg 300 g = 5.300 kg

Therefore, the total weight of fruits bought by rahul = $(4.090 + 2.060 + 5.300)$ kg

= 11.450 kg

The total weight of the fruits is 11.450 kg

Question: 6

Nasreen bought 3m 20 cm cloth for her shirt and 2 m 5 cm cloth for her skirt .Find the total cloth bought by her?

Solution:

Cloth for shirt = 3 m 20 cm = 3.20 m

Cloth for skirt = 2 m 50 m = 2.05 m

Total cloth bought by nasreen = (3.20 + 2.05) m
= 5.25 m

Total cloth bought by nasreen is 5.25 m

Question: 7

Sunita travels 15 km 268 m by bus, 7 km 7 m by car and 500 m by foot in order to reach her school. How far is her school from her residence?

Solution:

Distance travelled by bus = 15 km 268 m = 15.268 km

Distance travelled by car = 7 km 7m = 7.007 km

Travel on foot = 500m = 0.500 km

Total distance travelled by sunita = (15.268 +7.07 + 0.500) km
= 22.775 km

Therefore, the total distance covered by sunita is 22.775 km

Exercise 7.9

Question: 1

Subtract:

Solution:

$$1. 46.23 - 37.5$$

$$= 8.73$$

$$1. 128.40 - 53.05$$

$$= 75.35$$

$$1. 45.03 - 27.80$$

$$= 17.23$$

$$1. 23.930 - 5.946$$

$$17.984$$

Question: 2

Subtract:

Solution:

$$1. 9.756 - 6.280$$

$$= 3.476$$

$$1. 21.05 - 15.27$$

$$= 5.78$$

$$1. 18.50 - 6.79$$

$$= 11.71$$

$$1. 48.10 - 0.37$$

$$= 47.73$$

$$1. 108.032 - 86.800$$

$$= 21.232$$

$$1. 91.001 - 72.900$$

$$= 18.101$$

$$1. 100.0 - 26.32$$

$$= 73.68$$

Question: 3

The sum of two numbers is 100. If one of them is 78.01. Find the other one?

Solution:

One number is 78.01

Suppose the other number is x

The sum of these numbers is 100

$$\text{Therefore, } 78.01 + x = 100$$

$$= x = 100 - 78.01$$

$$= x = 21.99$$

The other number is 21.99

Question: 4

Waheeda's school is at a distance 5 km 350 m from her house. She travels 1 km 70 m on foot and the rest she travels by bus. How much distance does she travel by bus?

Solution:

Distance travelled on foot = 1 km 70 m

Suppose the distance travelled by bus = x km

Total distance of school from residence = 5km 350 m = 5.350 km

$$\text{So, } 1.070 + x = 5.350$$

$$= x = 5.350 - 1.070$$

$$= x = 4.280 \text{ km}$$

Therefore, distance travelled by bus is 4.280 km

Question: 5

Raju bought a book of Rs.35.65. he gave Rs.50.35 to the shopkeeper. How much money did he pay back to the shopkeeper?

Solution:

Price of the book = Rs. 365

Amount given to the shopkeeper = Rs50

Therefore, balance returned by the shopkeeper = Rs. (50 - 35.65)

= Rs. 14.35

Question: 6

Raju bought a water melon weighing 5 kg 200g. Out of this she gave 2 kg 750 g to her neighbor. What is the weight of the watermelon left with ruby?

Solution:

Weight of the watermelon when bought = 5 kg 200g = 5.200 kg

Weight of the watermelon given to the neighbor = 2 kg 750 g = 2.750 kg

Therefore, weight of the watermelon left with ruby = weight of the watermelon when bought – weight of the watermelon when given to the neighbor

= (5.200 - 2.750) kg

= 2.450 kg

So, the weight of the water melon left with ruby = 2.450 kg

Question: 7

Victor drove 89.05 km on Saturday and 73.9 km on Sunday. How many kilometers did he drove more on Saturday?

Solution:

Distance travelled on Saturday = 89.050 km

Distance travelled on Sunday = 73.9 km

Subtracting the distance travelled on Sunday from the distance travelled on Saturday = 89.050 – 73.9 km

$$= 15.15 \text{ km}$$

Therefore, victor drove 15.15km more on Saturday.

Question: 8

Raju bought a book of Rs.35.65. he gave Rs.50.35 to the shopkeeper. How much money did he pay back to the shopkeeper?

Solution:

Price of the book = Rs. 365

Amount given to the shopkeeper = Rs50

Therefore, balance returned by the shopkeeper = Rs. (50 - 35.65)

$$= \text{Rs.}14.35$$

Question: 9

Gopal travelled 125.5 km by bus, 14.25 km by pony and the rest of the distance to kedarnath on foot. If he covered a total distance of 150 km, how much did he travel on foot?

Solution:

Distance travelled by bus = 125.5 km

Distance travelled by pony = 14.25 km

Suppose the distance travelled on foot = x

Total distance = 150 km = distance travelled by bus + distance travelled on pony + distance travelled on foot

$$= 150 = 125.5 + 14.25 + x$$

$$= 150 = 139.75 + x$$

$$= x = 10.25 \text{ km}$$

Therefore, distance travelled on foot= 10.25 km

Question: 10

Tina had 20 m 5 cm long cloth. She cuts 4 m 50 cm length of cloth from this for making a curtain. How much cloth is left with her?

Solution:

Length of cloth originally = 20 m 5 cm = 2.05 m

Length of cloth cut for curtain = 4m 50 cm = 4.50 m

Therefore, length of cloth left with tina = length of cloth originally – length of cloth cut for curtain

$$= 20.05 - 4.50 \text{ m}$$

$$= 15.55 \text{ m}$$

Length of the cloth left with tina = 15.55 m

Question: 11

Vineeta bought a book of Rs. 18.9, a pen of Rs. 8.50 and some papers for Rs. 5.05. She gave fifty rupee to the shopkeeper. How much balance did she get back?

Solution:

Price of the book = Rs. 18.90

Price of the pen = Rs 8.50

Price of the paper = Rs. 5.05

Total price of three items = Rs(18.90 + 8.50 + 5.05)

$$= \text{Rs } 32.45$$

Total amount given to the shopkeeper = Rs 50

Balance received = Rs (50 - 32.45)

$$= \text{Rs. } 17.55$$

Question: 12

Tanuj walked 8.62 km on Monday, 7.05 km on Tuesday, and some distance on Wednesday. If he walked 21.01 km in three days, how much distance did he walk on Wednesday?

Solution:

Distance travelled on Monday = 8.62 km

Distance travelled on Tuesday = 7.05 km

Suppose the distance travelled on Wednesday = x km

Total distance covered =

$$21.01 = 8.62 + 7.05 + x$$

$$= x = 21.01 - 15.67$$

$$= x = 5.34$$

Therefore, Tanuj walked 5.34 km on Wednesday.

Exercise 7.10

Question: 1

Find the value.

Solution:

1. $\frac{3}{10}$ is equals to

c) 0.3

2. $\frac{7}{100}$ is equals to

d) 0.07

3. $\frac{4}{1000}$ is equals to

0.004

4. The value of $\frac{37}{10000}$ is:

0.0037

5. The place value of 5 in 0.04532 is

$\frac{5}{1000}$

6. The value of $\frac{231}{1000}$

0.231

7. The value of $\frac{3}{5} \times 100$

3.005

8. The value of $\frac{3}{25}$

9. The value of $2\frac{1}{25}$

2.04

10. $\frac{4}{7}$ 8 is equals to

c) 4.875

11. $2 + \frac{3}{10} + \frac{5}{100}$ is equals to

is equals to

c) 2.35

12. $\frac{3}{100} + \frac{5}{1000}$ is equals to

c) 0.0305

13. 1 cm is equals to

0.01 m

14. 1 m is equals to

c) 0.001 km

15. 2 kg 5 gm is equal to

2.005 kg

16. 15 litres and 15 ml is equals to

d) 15.015 litres

17. Which of the following are like decimals

c) 5.5, 6.6, 7.7, 8.8

18. The value of the $0.5 + 0.005 + 5.05$ is

b) 5.555

19. $0.35 - 0.035$ is equal to

c) 0.0315

20. $2.5 + 3.05 - 4.005$ is equals to

1.545

21. Which is greater among 2.3, 2.03, 2.33, 2.05?

c) 2.33