

Mathematics

Chapter 8: Decimals



Important Questions

Multiple Choice Questions:

Question 1. 3 – tenths =

- (a) 0.3
- (b) 0.03
- (c) 0.003
- (d) 0.0003.

Question 2. Two tens and 2-tenths =

- (a) 20.2
- (b) 2.02
- (c) 202
- (d) none of these.

Question 3. One hundred and 1 – one =

- (a) 101
- (b) 1.01
- (c) 10.1
- (d) 0.101.

Question 4. Twelve point one =

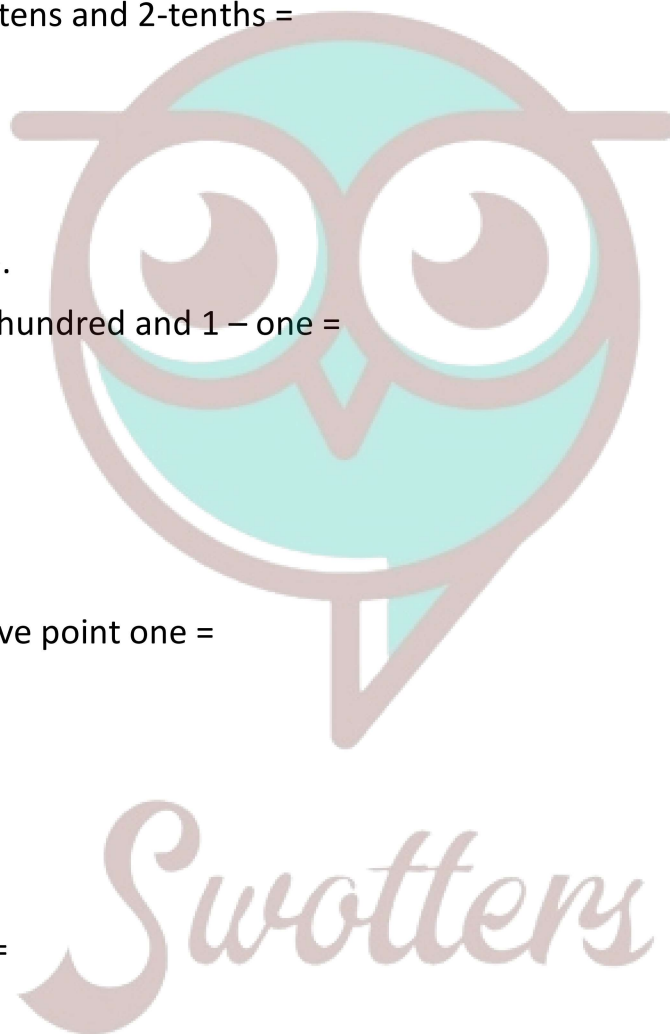
- (a) 12.1
- (b) 12.01
- (c) 1.21
- (d) 0.121.

Question 5. $\frac{2}{10} =$

- (a) 0.2
- (b) 0.02
- (c) 0.002
- (d) 0.0002

Question 6. $\frac{12}{10} =$

- (a) 0.12
- (b) 1.2
- (c) 1.02



(d) 1.002

Question 7. $\frac{22}{10} =$

(a) 0.22

(b) 2.2

(c) 2.02

(d) 2.002

Question 8. $1 + \frac{1}{10} =$

(a) 0.11

(b) 1.1

(c) 1.01

(d) 1.001

Question 9. $\frac{5}{2} =$

(a) 0.5

(b) 0.2

(c) 2.5

(d) 0.25

Question 10. $\frac{3}{5} =$

(a) 0.6

(b) 0.006

(c) 0.0006

(d) 0.06

Question 11. $2\frac{1}{10} =$

(a) 2.1

(b) 2.01

(c) 2.001

(d) 2.0002

Question 12. $\frac{16}{5} =$

(a) 0.32

(b) 3.2

(c) 3.02

(d) 3.002



Swotters

Question 13. $0.4 =$

- (a) $\frac{1}{5}$
 (b) $\frac{2}{5}$
 (c) $\frac{3}{5}$
 (d) $\frac{4}{5}$

Question 14. $1.5 =$

- (a) $\frac{1}{2}$
 (b) $\frac{5}{2}$
 (c) $\frac{3}{2}$
 (d) $\frac{7}{2}$

Question 15. $3.2 =$

- (a) $\frac{16}{5}$
 (b) $\frac{8}{5}$
 (c) $\frac{32}{5}$
 (d) $\frac{24}{5}$

Match The Following:

	Column I		Column II
1.	2m 5cm	A.	20 Rupees 15 paise
2.	14.035 km	B.	Rs. 0.50
3.	Rs 20.15	C.	2.05 m
4.	+50 paise	D.	14km 35m

Fill in the blanks:

- $25.135 = 25 + \frac{1}{10} + \frac{3}{100} + \frac{5}{1000}$
- $66.606 = 60 + \underline{\quad} + \frac{6}{10} + 0 + \frac{6}{100}$
- $14 + \frac{5}{1000} + \frac{6}{10} = 14.\underline{\quad}0\underline{\quad}$.

4. $\frac{4}{100} + 5 = \underline{\hspace{1cm}}.0\underline{\hspace{1cm}}$

True /False:

- Rs. 60.75 can also expressed as 60Rs 75p.
- Adding 70.25 and 14.6 gives 84.85.
- 1 kg is equals to 100 grams
- Expanded form of 23.05 is $20 + 3 + \frac{0}{10} + \frac{5}{100}$.

Very Short Questions:

- Arrange the following decimal numbers in descending order.
8.51, 8.06, 9.10, 8.57
- Express $\frac{6}{100}$ as decimal.
- Express the following as cm using decimals: 30 mm
- Show 1.1 on the number line.
- Express the following as cm using decimals 116 mm.
- Subtract 0.314 kg from 2.107 kg.
- Subtract the sum of 114.753 and 70.14 from the sum of 93.12 and 212.15.
- Write the following in decimals.
5 hundreds 3 tens 8 ones 4 tent
- Write 14.3 in place value tab
- Write the following in decimals

(a) $\frac{3}{4}$

(b) $\frac{2}{5}$

Short Questions:

- Represent 1.3, 3.8 and 4.1 on the number line.
- Write each of the following as decimals:

(a) $\frac{8}{10}$

(b) $\frac{13}{100}$

(c) $\frac{256}{100}$

(d) $\frac{3}{1000}$

- Convert the following unlike decimals into like decimals:

$\frac{7}{10}, \frac{5}{50}, \frac{6}{5}, \frac{4}{20}$

- Write the following decimals in their expanded form:

(a) 27.65

(b) 102.05

- (c) 36.36
(d) 0.507
5. Write each of the decimals as a mixed fraction.
- (a) 95.8
(b) 15.78
(c) 0.015
(d) 19.91
6. Express each of the following in terms of litres (L) using decimals:
- (a) 625 mL
(b) 760 mL
(c) 11 L 125 mL
(d) 7 L 350 mL
7. Write 3.03, 2.75 and 2.5 in ascending order.
8. Find the value of the following:
- (a) $15 - 9.363$
(B) $5.28 - 1.4 + 3.116$

Long Questions:

- Mr. Ranjan purchased 15.500 kg rice, 25.750 kg flour and 3.250 kg sugar. Find the total weight of his purchases. Is it 50 kg or less? If less, how much less?
- Ten years old Rahul can carry a maximum weight of 15 kg. If he bought 4 kg 900 g of apples, 2 kg 600 g of grapes and 5 kg 300 g of mangoes. Can he carry the total weight that he bought. If yes, then how much more weight he can carry with him?

Assertion and Reason Questions:

1.) **Assertion (A)** – $3 \text{ /tenths} = 0.03$

Reason (R) – Decimals are a set of numbers lying between integers on a number line

- a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

2.) **Assertion (A)** – Two tens and 2-tenths = 100.2

Reason (R) – Decimals are a set of numbers lying between integers on a number line

- a) Both A and R are true and R is the correct explanation of A

- b) Both A and R are true but R is not the correct explanation of A
 c) A is true but R is false
 d) A is false but R is true

ANSWER KEY -

Multiple Choice questions:

1. (a) 0.3
2. (a) 20.2
3. (a) 101
4. (a) 12.1
5. (a) 0.2
6. (b) 1.2
7. (b) 2.2
8. (b) 1.1
9. (c) 2.5
10. (a) 0.6
11. (a) 2.1
12. (b) 3.2
13. (b) $\frac{2}{5}$
14. (c) $\frac{3}{2}$
15. (a) $\frac{16}{5}$



Match The Following:

	Column I		Column II
1.	2m 5cm	C.	2.05 m
2.	14.035 km	D.	14km 35m
3.	Rs 20.15	A.	20 Rupees 15 paise
4.	+50 paise	B.	Rs. 0.50

Fill in the blanks:

1. $25.135 = 25 + \frac{1}{10} + \frac{3}{100} + \frac{5}{1000}$

$$2. \quad 66.606 = 60 + \underline{6} + \frac{6}{10} + 0 + \frac{6}{1000}$$

$$3. \quad 14 + \frac{5}{1000} + \frac{6}{10} = 14.\underline{6}05.$$

$$4. \quad \frac{4}{100} + 5 = 5 \ 0 \ \underline{4}$$

True /False:

1. True
2. True
3. False
4. True

Very Short Answer:

1. The given decimal numbers are like decimals. By checking the digits before decimal, we observe that 9.10 is largest of given numbers. Among the remaining numbers, by checking the tenths place, we observe that 8.06 is the least. Out of remaining numbers, by checking the hundredths place, we observe that 8.57 is bigger than 8.51. So, by arranging the given numbers from big to small, we have,

$$\Rightarrow 9.10, 8.57, 8.51, 8.06$$

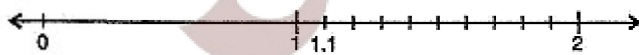
$$2. \quad \frac{6}{100} = 0.06$$

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

$$3. \quad 30 \text{ mm} = \frac{30}{10} \text{ cm}$$

$$3 \text{ cm} = 3.0 \text{ cm}$$

4. We know that 1.1 is more than one but less than two. There is one-tenth in it. Divide the unit length between 1 and 2 into 10 equal parts and take 1 part as shown below:



5.

$$116 \text{ mm} = \frac{116}{10} \text{ cm} \quad [\because 1 \text{ mm} = \frac{1}{10} = \frac{1}{10} \text{ cm}]$$

$$= \frac{110+6}{10} \text{ cm}$$

$$= \left(\frac{110}{10} + \frac{6}{10} \right) \text{ cm} = \left(11 + \frac{6}{10} \right) \text{ cm}$$

$$= 11.6 \text{ cm}$$

6.

$$0.314 \text{ kg from } 2.107 \text{ kg} = 1.793 \text{ kg}$$

$$\begin{array}{r} 1 \quad 10 \\ 2 \ . \ 1 \ 10 \ 7 \ \text{kg} \\ - 0 \ . \ 3 \ 1 \ 4 \ \text{kg} \\ \hline = 1 \ . \ 7 \ 9 \ 3 \ \text{kg} \end{array}$$

7.

$$\text{Sum of } 114.753 \text{ and } 70.14:- \begin{array}{r} 114.753 \\ + 70.140 \\ \hline 184.893 \end{array}$$

$$\text{Sum of } 212.15 \text{ and } 93.12:- \begin{array}{r} 212.15 \\ + 93.12 \\ \hline 305.27 \end{array}$$

$$\text{Difference in their sums} = \begin{array}{r} 305.270 \\ - 184.893 \\ \hline 120.377 \end{array}$$

8. 5 Hundreds + 3 Tens + 8 Ones + 4 Tenths

$$= 5 \times 100 + 3 \times 10 + 8 \times 1 + 4 \times \frac{1}{10}$$

$$= 500 + 30 + 8 + \frac{4}{10}$$

$$= 538 + \frac{4}{10} = 538.4$$

9.

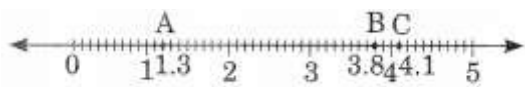
Hundreds	Tens	Ones	Tenths
0	1	4	3

10.

$$(a) \frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100} = 0.75$$

$$(b) \frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10} = 0.4$$

Short Answer:



1.

A represents 1.3
 B represents 3.8
 and C represents 4

2.

(a) $\frac{8}{10} = 0.8$

(b) $\frac{13}{100} = 0.13$

(c) $\frac{256}{100} = 25.6$

(d) $\frac{3}{1000} = 0.003$

3. LCM of 10, 50, 5 and 20 = 100

$$\therefore \frac{7}{10} = \frac{7 \times 10}{10 \times 10} = \frac{70}{100}$$

$$\frac{5}{50} = \frac{5 \times 2}{50 \times 2} = \frac{10}{100}$$

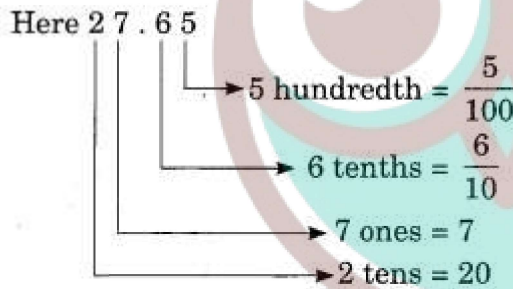
$$\frac{6}{5} = \frac{6 \times 20}{5 \times 20} = \frac{120}{100}$$

$$\frac{4}{20} = \frac{4 \times 5}{20 \times 5} = \frac{20}{100}$$

So, the equivalent like decimals are

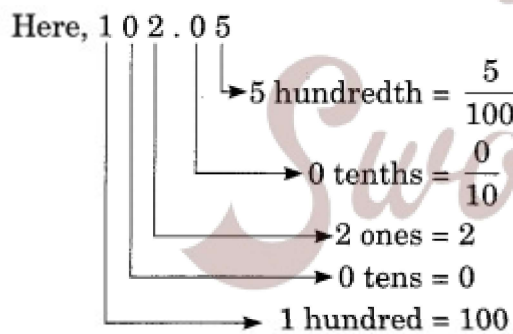
$\frac{70}{100}$, $\frac{10}{100}$, $\frac{120}{100}$ and $\frac{20}{100}$ respectively.

4. (a) 27.65



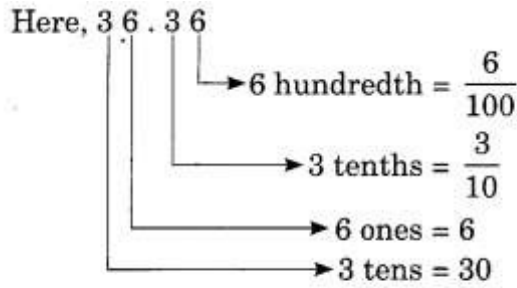
Thus, expanded form of 27.65 = 20 + 7 + $\frac{6}{10}$ + $\frac{5}{100}$

(b) 102.05



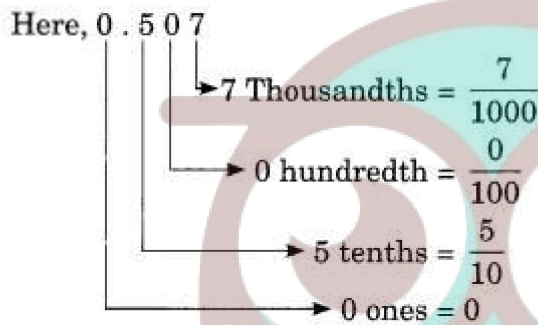
Thus, expanded form of 102.05 = 100 + 2 + $\frac{5}{100}$

(c) 36.36



Thus, expanded form of 36.36 = $30 + 6 + \frac{3}{10} + \frac{6}{100}$

(d) 0.507



\therefore Expanded form of 0.507 = $0 + \frac{5}{10} + \frac{7}{1000}$

5.

(a) $95.8 = 95 + 0.8 = 95 + \frac{8}{10} = 95 + \frac{4}{5} = 95\frac{4}{5}$

Thus $95.8 = 95\frac{4}{5}$

(b) $15.78 = 15 + 0.78 = 15 + \frac{78}{100} = 15 + \frac{39}{50} = 15\frac{39}{50}$

Thus, $15.78 = 15\frac{39}{50}$

(c) $0.015 = 0 + 0.015 = 0 + \frac{15}{1000} = \frac{15}{1000} = \frac{3}{200}$

Thus, $0.015 = \frac{3}{200}$

(d) $19.91 = 19 + \frac{91}{100} = 19\frac{91}{100}$

Thus, $19.91 = 19\frac{91}{100}$

6. (a) We know that 1000 mL = 1 L

$\therefore 625\text{mL} = \frac{625}{1000} \text{ L} = 0.625 \text{ L}$

Thus, 625 mL = 0.625 L

(b) We know that 1000 mL = 1 L

$\therefore 760 \text{ mL} = \frac{760}{1000} \text{ L}$

$$= 0.760 \text{ L} = 0.76 \text{ L}$$

Thus, 760 mL = 0.7

(c) We know that 1000 mL = 1 L

$$\therefore 11 \text{ L } 125 \text{ mL} = 11 \text{ L} + \frac{125}{1000} \text{ L}$$

$$= (11 + 0.125) \text{ L} = 11.125 \text{ L}$$

Thus, 11 L 125 mL = 11.125 L

(d) We know that 1000 mL = 1 L

$$\therefore 7 \text{ L } 350 \text{ mL} = 7 \text{ L} + \frac{350}{1000} \text{ L}$$

$$= (7 + 0.350) \text{ L} = 7.350 \text{ L} = 7.35 \text{ L}$$

Thus, 7L 350 mL = 7.35 L

7. The given decimals are unlike.

\therefore Their corresponding like decimals are 3.03, 2.75 and 2.50.

Now neglecting the decimals, we have 303, 275 and 250.

Since, $303 > 275 > 250$,

we have $3.03 > 2.75 > 2.50$

\therefore Ascending order is $2.50 < 2.75 < 3.03$

8.

$$(a) \begin{array}{r} ^4 ^9 ^9 ^{10} \\ 15.000 \\ - 9.363 \\ \hline 5.637 \end{array}$$

$$(b) \begin{array}{r} 5.280 \\ + 3.116 \\ \hline 8.396 \end{array} \quad \text{and} \quad \begin{array}{r} 8.396 \\ - 1.400 \\ \hline 6.996 \end{array}$$

Hence, $5.28 - 1.4 + 3.116 = 6.996$

Long Answer:

1. Weight of rice = 15.500 kg

Weight of flour = 25.750 kg

Weight of sugar = 3.250 kg

Total weight of this purchases = 15.500 kg + 25.750 kg + 3.250 kg

= 44.500 kg

We see that the total weight of his purchases is less than 50 kg.

$$\begin{array}{r} \overset{49}{\cancel{50}}.000 \\ -44.500 \\ \hline 5.500 \text{ kg} \end{array}$$

Thus, the total weight 44.500 kg is 5.500 kg less than 50 kg.

2. Weight of apples = 4 kg 900 g

Weight of grapes = 2 kg 600 g

Weight of mangoes = 5 kg 300 g

∴ Total weight of his purchases = 4 kg 900 g + 2 kg 600 g + 5 kg 300 g

= 4.900 kg + 2.600 kg + 5.300 kg

= 12.800 kg

But Rahul can carry a maximum weight of 15 kg.

Thus, more weight that he can carry with him = 15 kg – 12.800 kg

$$\begin{array}{r} \overset{4}{\cancel{15}}.000 \\ -12.800 \\ \hline 2.200 \end{array}$$

= 2.200 kg

Assertion and Reason Questions:

- 1) d) A is false but R is true
- 2) d) A is false but R is true



Swotters