

NCERT QUESTIONS WITH SOLUTIONS

FIGURE IT OUT-01

1. Find the sums and differences:

(a) $\frac{3}{10} + 3\frac{4}{100}$

(b) $9\frac{5}{10}\frac{7}{100} + 2\frac{1}{10}\frac{3}{100}$

(c) $15\frac{6}{10}\frac{4}{100} + 14\frac{3}{10}\frac{6}{100}$

(d) $7\frac{7}{100} - 4\frac{4}{100}$

(e) $8\frac{6}{100} - 5\frac{3}{100}$

(f) $12\frac{6}{100}\frac{2}{100} - \frac{9}{10}\frac{9}{100}$

Sol. (a) $\frac{3}{10} + 3\frac{4}{100}$
 $\frac{3}{10} + 3\frac{4}{100} = \frac{3}{10} + 3 + \frac{4}{100}$
 $= 3 + \frac{3}{10} + \frac{4}{100} = 3\frac{3}{10}\frac{4}{100} = 3\frac{34}{100}$

(b) $9\frac{5}{10}\frac{7}{100} + 2\frac{1}{10}\frac{3}{100}$
 $9\frac{5}{10}\frac{7}{100} + 2\frac{1}{10}\frac{3}{100}$
 $= (9+2) + \left(\frac{5}{10} + \frac{1}{10}\right) + \left(\frac{7}{100} + \frac{3}{100}\right)$
 $= 11 + \frac{6}{10} + \frac{10}{100}$
 $= 11 + \frac{6}{10} + \frac{1}{10} = 11\frac{7}{10}$

(c) $15\frac{6}{10}\frac{4}{100} + 14\frac{3}{10}\frac{6}{100}$
 $15\frac{6}{10}\frac{4}{100} + 14\frac{3}{10}\frac{6}{100}$
 $= (15+14) + \left(\frac{6}{10} + \frac{3}{10}\right) + \left(\frac{4}{100} + \frac{6}{100}\right)$

$$= 29 + \frac{9}{10} + \frac{10}{100} = 29 + \frac{9}{10} + \frac{1}{10} = 29 + \frac{10}{10}$$

$$= 29 + 1 = 30$$

(d) $7\frac{7}{100} - 4\frac{4}{100}$

$$7\frac{7}{100}$$

$$-4\frac{4}{100}$$

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

(e) $8\frac{6}{100} - 5\frac{3}{100}$

$$8\frac{6}{100} - 5\frac{3}{100} = (8-5) + \left(\frac{6}{100} - \frac{3}{100}\right)$$

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

(f) $12\frac{6}{10}\frac{2}{100} - \frac{9}{10}\frac{9}{100}$

$$12\frac{6}{10}\frac{2}{100} \rightarrow 12\frac{5}{10}\frac{12}{100} \rightarrow 11\frac{15}{10}\frac{12}{100}$$

$$\frac{9}{10}\frac{9}{100} \quad \frac{9}{10}\frac{9}{100} \quad \frac{9}{10}\frac{9}{100}$$

$$= 11\frac{6}{10}\frac{3}{100} = 11\frac{63}{100}$$

FIGURE IT OUT-02

1. Find the sums

(a) $5.3 + 2.6$

(b) $18 + 8.8$

(c) $2.15 + 5.26$

(d) $9.01 + 9.10$

(e) $29.19 + 9.91$

(f) $0.934 + 0.6$

(g) $0.75 + 0.03$

(h) $6.236 + 0.487$

Sol.	(a)	(b)	(c)
	5.3	18.0	2.15
	+2.6	+8.8	+5.26
	=7.9	=26.8	=7.41
(d)	9.01	29.19	0.934
	+9.10	+9.91	0.600
	=18.11	=39.10	=1.534
(g)	0.75	6.236	
	+0.03	0.487	
	=0.78	=6.723	

2. Find the differences

- (a) $5.6 - 2.3$ (b) $18 - 8.8$
(c) $10.4 - 4.5$ (d) $17 - 16.198$
(e) $17 - 0.05$ (f) $34.505 - 18.1$
(g) $9.9 - 9.09$ (h) $6.236 - 0.487$

Sol.	(a)	(b)	(c)
	5.6	17 10	9 14
	-2.3	18.0	10 .4
	= 3.3	- 8.8	-4 .5
		= 9.2	=5.9
(d)	16 9910	(e)	6 910
	17. 000		17. 00
	- 16. 1.98		-0. 05
	= 0 . 802		= 16.95
(f)	2 14	(g)	8 10
	34.505		9 . 90
	-18.100		-9.09
	= 16.405		= 0.81
		(h)	51112.16
			6.236
			-0.487
			=5.749

FIGURE IT OUT-03

1. Convert the following fractions into decimals:

- (a) $\frac{5}{100}$ (b) $\frac{16}{1000}$
(c) $\frac{12}{10}$ (d) $\frac{254}{1000}$

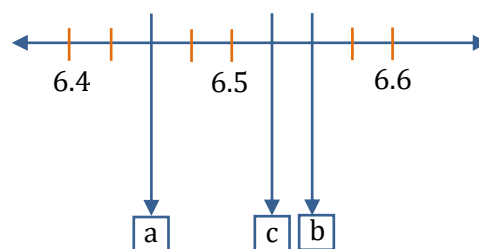
- Sol.** (a) $\frac{5}{100} = 0.05$
(b) $\frac{16}{1000} = \frac{10}{1000} + \frac{6}{1000}$
 $= .01 + .006 = .016$
(c) $\frac{12}{10} = \frac{10}{10} + \frac{2}{10} = 1 + \frac{2}{10} = 1.2$
(d) $\frac{254}{1000} = \frac{200}{1000} + \frac{50}{1000} + \frac{4}{1000}$
 $= \frac{2}{10} + \frac{5}{100} + \frac{4}{1000}$
 $= .2 + .05 + .004 = 0.254$

2. Convert the following decimals into a sum of tenths, hundredths and thousandths:

- (a) 0.34 (b) 1.02
(c) 0.8 (d) 0.362

- Sol.** (a) $0.34 = \frac{34}{100} = \frac{30}{100} + \frac{4}{100} = \frac{3}{10} + \frac{4}{100}$
(b) $1.02 = \frac{102}{100} = \frac{100}{100} + \frac{2}{100}$
(c) $0.8 = \frac{8}{10}$
(d) $0.362 = \frac{362}{1000} = \frac{300}{1000} + \frac{60}{1000} + \frac{2}{1000}$
 $= \frac{3}{10} + \frac{6}{100} + \frac{2}{1000}$

3. What decimal number does each letter represent in the number line below.



Sol. There are 4 divisions between 6.4 and 6.5, so each division is one-fourth part of 0.1 or $\frac{1}{10}$, i.e., $\frac{1}{40} = 0.025$ unit.

Therefore, the second division after 6.4, denoted by 'a', represents the number 6.45, while the first division after 6.5, denoted by 'c', represents the number 6.525, and the second division after 6.5, denoted by 'b', represents the number 6.55.

4. Arrange the following quantities in descending order:

(a) 11.01, 1.011, 1.101, 11.10, 1.01

(b) 2.567, 2.675, 2.768, 2.499, 2.698

(c) 4.678 g, 4.595 g, 4.600 g, 4.656 g, 4.666 g

(d) 33.13 m, 33.31 m, 33.133m, 33.331 m, 33.313 m

Sol. (a) Using the decimal place value chart, we find that:

Tens	Ones	Decimal point	Tenths	Hundredths	Thousandths
1	1	.	0	1	
	1	.	0	1	1
	1	.	1	0	1
1	1	.	1	0	
	1	.	0	1	

Here, the two numbers 11.01 and 11.10 have 11 whole-number parts, but the first number has 0 tenths, whereas the second number has 1 tenth. Therefore, $11.10 > 11.01$. The three numbers 1.011, 1.101, and 1.01 have 1 whole number part, but the

first and third numbers have 0 tenths, whereas the second number has 1 tenth. Therefore, 1.101 is the greatest among the three. Now, comparing the remaining two numbers, we get $1.011 > 1.01$.

Thus, the numbers in descending order are:

$11.10 > 11.01 > 1.101 > 1.011 > 1.01$.

(b) 2.567, 2.675, 2.768, 2.499, 2.698

Tens	Ones	Decimal point	Tenths	Hundredths	Thousandths
	2	.	5	6	7
	2	.	6	7	5
	2	.	7	6	8
	2	.	4	9	9
	2	.	6	9	8

Thus, the given quantities in descending order are:

$2.768 > 2.698 > 2.675 > 2.567 > 2.499$

(c) 4.678 g, 4.595 g, 4.600 g, 4.656 g, 4.666 g

Tens	Ones	Decimal point	Tenths	Hundredths	Thousandths
	4	.	6	7	8
	4	.	5	9	5
	4	.	6	0	0
	4	.	6	5	6
	4	.	6	6	6

Thus, the given quantities in descending order are:

$4.678 \text{ g} > 4.666 \text{ g} > 4.656 \text{ g} > 4.600 \text{ g} > 4.595 \text{ g}$.

- (d) 33.13m, 33.31m, 33.133 m, 33.331m, 33.313 m

Tens	Ones	Decimal point	Tenths	Hundre dths	Thousa ndths
3	3	.	1	3	
3	3	.	3	1	
3	3	.	1	3	3
3	3	.	3	3	1
3	3	.	3	1	3

Thus, the given quantitates in descending order are:

$$33.331 \text{ m} > 33.313 \text{ m} > 33.31 \text{ m} > 33.133 \text{ m} > 33.13 \text{ m}.$$

5. Using the digits 1, 4, 0, 8 and 6 make:
 (a) the decimal number closest to 30
 (b) the smallest possible decimal number between 100 and 1000.

Sol. Using the digits 1, 4, 0, 8 and 6, we can make:

- (a) The decimal number closet to 30 $\rightarrow$ 40.168.
 (b) The smallest possible decimal number between 100 and 1000 $\rightarrow$ 104.68.

6. Will a decimal number with more digits be greater than a decimal number with fewer digits ?

Sol. No, It is not necessary as $0.9 > 0.123456789$.

7. Mahi purchases 0.25 kg of beans, 0.3 kg of carrots, 0.5 kg of potatoes, 0.2 kg of capsicums, and 0.05 kg of ginger. Calculate the total weight of the items she bought.

Sol. The total weight of the items Mahi bought $= 0.25 \text{ kg} + 0.3 \text{ kg} + 0.5 \text{ kg} + 0.2 \text{ kg} + 0.05 \text{ kg}$
 $= 1.3 \text{ kg}$

8. Pinto supplies 3.79 L, 4.2 L, and 4.25 L of milk to a milk dairy in the first three days. In 6 days, he supplies 25 litres of milk. Find the total quantity of milk supplied to the dairy in the last three days.

Sol. The Total quantity of milk supplied to the dairy in the last three days = Toal milk supplied in the 6 days-

Total milk supplied in the first 3 days

$$= 25 \text{ L} - (3.79 \text{ L} + 4.2 \text{ L} + 4.25 \text{ L})$$

$$= 25 \text{ L} - 12.24 \text{ L} = 12.76 \text{ L}$$

9. Tinku weighed 35.75 kg in January and 34.50 kg in February. Has he gained or lost weight ? How much is the change ?

Sol. Since $35.75 \text{ kg} > 34.50 \text{ kg}$, Tinku has lost weight.

$$\text{Now, the change in the weight} = 35.75 \text{ kg} - 34.50 \text{ kg} = 1.25 \text{ kg}$$

10. Extend the pattern: 5.5, 6.4, 6.39, 7.29, 7.28, 8.18, 8.17, _____, _____.

Sol. Let us analyse the given pattern:

$$5.5 (+0.9) \rightarrow 6.4 (-0.01) \rightarrow 6.39 (+0.9) \rightarrow 7.29 (-0.01) \rightarrow 7.28 (+0.9) \rightarrow 8.18 (-0.01) \rightarrow 8.17.$$

So, the sequence follows an increasing trend of 0.9 and then a decreasing trend of 0.01 alternatively.

Thus, the next two numbers are 9.07 and 9.06.

11. How many millimetres make 1 kilometre ?

Sol. We know that $1 \text{ km} = 1000 \text{ m}$ and $1 \text{ m} = 1000 \text{ mm}$.

$$\text{Therefore, } 1 \text{ km} = 1000 \times 1000 \text{ mm} = 1000000 \text{ mm}$$

12. Indian Railways offers optional travel insurance for passengers who book e-tickets. It costs 45 paise per passenger. If 1 lakh people opt for insurance in a day, what is the total insurance fee paid?

Sol. The insurance fee paid for 1 passenger $= 45 \text{ p} = ₹0.45$.

$$\text{So, total insurance fee paid for 1 lakh passengers} = ₹0.45 \times 100000 = ₹45000.$$

13. Which is greater ?

(a) $\frac{10}{1000}$ or $\frac{1}{10}$?

(b) One-hundredth or 90 thousandths?

(c) One-thousandth or 90 hundredths?

Sol. (a) As $\frac{10}{1000} = \frac{1}{100}$ and $\frac{1}{10} = \frac{10}{100}$

So $\frac{1}{10} > \frac{10}{1000}$

(b) As one-hundredths = $\frac{1}{100}$ and

90 thousandths =

$\frac{90}{1000} = \frac{9}{100}$, so $\frac{9}{100} > \frac{1}{100}$

Or 90 thousandths > One-hundredth.

(c) As one-thousandths = $\frac{1}{1000}$ and

90 hundredths = $\frac{90}{100} = \frac{900}{1000}$

So $\frac{1}{1000} < \frac{900}{1000}$

14. Write the decimal forms of the quantities mentioned (an example is given):

(a) 87 ones, 5 tenths and 60 hundredths = 88.10

(b) 12 tens and 12 tenths

(c) 10 tens, 10 ones, 10 tenths, and 10 hundredths

(d) 25 tens, 25 ones, 25 tenths, and 25 hundredths

Sol. (a) 87 ones, 5 tenths, and 60 hundredths

$$87 \times 1 + \frac{5}{10} + \frac{60}{100}$$

$$= 87 + \frac{11}{100} = 88.10 = 88.10$$

(b) 12 tens and 12 tenths

$$= 12 \times 10 + 12 \times \frac{1}{10}$$

$$= 120 + 1.2 = 121.2$$

(c) 10 tens, 10 ones, 10 tenths, and 10 hundredths

$$= 10 \times 10 + 10 \times 1 + 10 \times \frac{1}{10} + 10 \times \frac{1}{100}$$

$$= 100 + 10 + 1 + \frac{1}{10} = 111.1$$

(d) 25 tens, 25 ones, 25 tenths, and 25 hundredths

$$= 25 \times 10 + 25 \times 1 + 25 \times \frac{1}{10} + 25 \times \frac{1}{100}$$

$$= 250 + 25 + \frac{20}{10} + \frac{5}{100} + \frac{20}{100} + \frac{5}{100}$$

$$= 275 + 2 + \frac{5}{10} + \frac{2}{10} + \frac{5}{100} = 277.75$$

15. Using each digit 0–9 not more than once, fill the boxes below so that the sum is closest to 10.5.

$$\begin{array}{r} \boxed{} \boxed{} \boxed{} \boxed{} \\ + \boxed{} \boxed{} \boxed{} \boxed{} \\ \hline \end{array}$$

Sol.

$$\begin{array}{r} \boxed{9} \boxed{} \boxed{} \boxed{} \\ + \boxed{1} \boxed{} \boxed{} \boxed{} \\ \hline 10 \bullet 5 0 1 \end{array}$$

16. Write the following fractions in decimal form:

(a) $\frac{1}{2}$

(b) $\frac{3}{2}$

(c) $\frac{1}{4}$

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

(e) $\frac{1}{5}$

(f) $\frac{4}{5}$

Sol. (a) $\frac{1}{2} \times \frac{5}{5} = \frac{5}{10} = 0.5$

(b) $\frac{3}{2} \times \frac{5}{5} = \frac{15}{10} = \frac{10}{10} + \frac{5}{10} = 1 + \frac{5}{10} = 1.5$

(c) $\frac{1}{4} \times \frac{25}{25} = \frac{25}{100} = \frac{20}{100} + \frac{5}{100}$
 $= \frac{2}{10} + \frac{5}{100} = 0.25$

(d) $\frac{3}{4} \times \frac{25}{25} = \frac{75}{100} = \frac{70}{100} + \frac{5}{100}$

$= \frac{7}{10} + \frac{5}{100} = 0.75$

(e) $\frac{1}{5} \times \frac{2}{2} = \frac{2}{10} = 0.2$

(f) $\frac{4}{5} \times \frac{2}{2} = \frac{8}{10} = 0.8$
