

## Exercise 6.3

①

(i) 0.3,  $\boxed{0.8}$ ,  $\textcircled{0.1}$ , 0.15

(ii)  $\textcircled{0.523}$ ,  $\boxed{5.2}$ , 0.64, 0.621

② (i)

$$\frac{38}{100} = \frac{38 \times 10}{100 \times 10} = \frac{380}{1000}$$

$$\frac{5}{100} = \frac{5 \times 10}{100 \times 10} = \frac{50}{1000}$$

$$\frac{4}{10} = \frac{4 \times 100}{10 \times 100} = \frac{400}{1000}$$

$$\frac{1}{10} = \frac{1 \times 100}{10 \times 100} = \frac{100}{1000}$$

$$\frac{9}{1000} = \frac{9 \times 1}{1000 \times 1} = \frac{9}{1000}$$

When denominators are same, the fraction with the greater numerator is greater.

Thus,

$\frac{9}{1000}$  is the smallest fraction.

$\frac{4}{10}$  is the greatest fraction.

(ii)

$$\frac{3}{100} = \frac{3 \times 10}{100 \times 10} = \frac{30}{1000}$$

$$\frac{3}{1000} = \frac{3 \times 1}{1000 \times 1} = \frac{3}{1000}$$

260/557

$$\frac{3}{10} = \frac{3 \times 100}{10 \times 100} = \frac{300}{1000}$$

$$3 = \frac{3}{1} = \frac{3000}{1000}$$

When denominators are same, the fraction with the greater numerator is greater.

Thus,

$\frac{3}{1000}$  is the smallest fraction.

3 is the greatest fraction.

(iii)

$$21\frac{4}{10}, 15\frac{92}{100}, 3\frac{845}{1000}, 101\frac{1}{10}$$

Changing mixed fraction to improper fraction we have:

$$\frac{214}{10}, \frac{1592}{100}, \frac{3845}{1000}, \frac{1011}{10}$$

Now change improper fractions to like fractions, we have

261/557

$$\frac{214}{10} = \frac{214 \times 100}{10 \times 100} = \frac{21400}{1000}$$

$$\frac{1592}{100} = \frac{1592 \times 10}{100 \times 10} = \frac{15920}{1000}$$

$$\frac{3845}{1000} = \frac{3845 \times 1}{1000 \times 1} = \frac{3845}{1000}$$

$$\frac{1011}{10} = \frac{1011 \times 100}{10 \times 100} = \frac{101100}{1000}$$

Thus,

$3\frac{845}{1000}$  is the smallest fraction.

$10\frac{1}{10}$  is the greatest fraction.

③

(i)  $0.499 < 0.5$

(ii)  $0.01 > 0.009$

(iii)  $1.28 = 1.280$

(iv)  $3.16 > 3.061$

(v)  $0.8 < 1$

(vi)  $6.76 < 66.7$

262/557

④ By converting into like fractions, compare the following decimals and write them in ascending order;  $11.1, 11.01, 11.001, 11.011, 11.11$   
we have

$$11.1 = 11.100$$

$$11.01 = 11.010$$

$$11.001 = 11.001$$

$$11.011 = 11.011$$

$$11.11 = 11.110$$

Now,

$$11001 < 11010 < 11011 < 11100 < 11110$$

$$\therefore 11 \cdot 001 < 11 \cdot 010 < 11 \cdot 011 < 11 \cdot 100 < 11 \cdot 110$$

$$\text{ie. } 11 \cdot 001 < 11 \cdot 01 < 11 \cdot 011 < 11 \cdot 1 < 11 \cdot 11$$

(5)

$$(i) 7.695 > 0.999$$

$$(ii) 95.8 = 95.800$$

$$(iii) 251.34 < 254.31$$

$$(iv) 99.35 > 98.351$$

$$(v) 18.1 > 18.01$$

263/557

$$(vi) 25.011 < 25.1$$

(6)

(i) Arrange them in ascending order, we have:

$$10.123 < 10.132 < 10.213 < 10.231 < 10.312 < 10.321$$



(ii) By converting into like fractions, compare the following decimals and write them in ascending order: 0.03, 0.3, 10.1, 28.02, 5.35, 5.342

We have

$$0.03 = 0.030$$

$$0.3 = 0.300$$

$$10.1 = 10.100$$

$$28.02 = 28.020$$

$$5.35 = 5.350$$

$$5.342 = 5.342$$

Now,

$$0.030 < 0.300 < 5.342 < 5.350 < 10.100 < 28.020$$

$$\therefore 0.030 < 0.300 < 5.342 < 5.350 < 10.100 < 28.020$$

$$\text{ie } 0.03 < 0.3 < 5.342 < 5.35 < 10.1 < 28.02$$

(iii) By converting into like fractions, compare the following decimals and write them in ascending order: 5.8, 7.2, 5.69, 7.14, 5.06

We have,

$$5.8 = 5.80$$

$$7.2 = 7.20$$

$$5.69 = 5.69$$

$$7.14 = 7.14$$

$$5.06 = 5.06$$

Now,

$$506 < 569 < 580 < 714 < 720$$

$$\therefore 5.06 < 5.69 < 5.80 < 7.14 < 7.20$$

$$\text{ii. } 5.06 < 5.69 < 5.8 < 7.14 < 7.2$$

(iv) By converting into like fractions, compare the following decimals and write them in ascending order: 6.54, 6.45, 6.4, 6.5, 6.05

We have,

$$6.54 = 6.54$$

$$6.45 = 6.45$$

$$6.4 = 6.40$$

$$6.5 = 6.50$$

$$6.05 = 6.05$$

265/557

Now,  $605 < 640 < 645 < 650 < 654$

∴  $6.05 < 6.40 < 6.45 < 6.50 < 6.54$

∴  $6.05 < 6.4 < 6.45 < 6.5 < 6.54$

(7)

(i) By converting into like fractions, compare the following decimals and write them in descending order: 1.2, 1.02, 0.99, 10.243, 0.989

Now,

$$1.2 = 1.200$$

$$1.02 = 1.020$$

$$0.99 = 0.990$$

$$10.243 = 10.243$$

$$0.989 = 0.989$$

266/557

we have,

$$10243 > 1200 > 1020 > 0990 > 0989$$

$$\text{i.e. } 10.243 > 1.200 > 1.020 > 0.990 > 0.989$$

$$\therefore 10.243 > 1.2 > 1.02 > 0.99 > 0.989$$



(ii) By converting into like fractions, compare the following decimals and write them in descending order: 28.3, 28.08, 28.85, 28.82, 28.7, 28.54

Now,

- $28.3 = 28.30$
- $28.08 = 28.08$
- $28.85 = 28.85$
- $28.82 = 28.82$
- $28.7 = 28.70$
- $28.54 = 28.54$

We have

$$2885 > 2882 > 2870 > 2854 > 2830 > 2808$$

i.e.  $28.85 > 28.82 > 28.70 > 28.54 > 28.30 > 28.08$

$\therefore 28.85 > 28.82 > 28.7 > 28.54$ ;  $\frac{267}{557}$

(iii) By converting into like fractions, compare the following decimals and write them in descending order: 7.3, 8.73, 73.03, 7.33, 8.073

Now,

$$7.3 = 7.300$$

$$8.73 = 8.730$$

$$73.03 = 73.030$$

$$7.33 = 7.330$$

$$8.073 = 8.073$$

we have,  $73.030 > 8.730 > 8.073 > 7.330 > 7.300$

ie.  $73.030 > 8.730 > 8.073 > 7.330 > 7.300$

$\therefore 73.03 > 8.73 > 8.073 > 7.33 > 7.3$

(iv) By converting into like fractions, compare the following decimals and write them in descending order:  $2.7, 7.2, 2.27, 2.72,$

$2.02, 2.007$

268/557

we have,

$$2.7 = 2.700$$

$$7.2 = 7.200$$

$$2.27 = 2.270$$

$$2.72 = 2.720$$

$$2.02 = 2.020$$

$$2.007 = 2.007$$

Now,

$$7200 > 2720 > 2700 > 2270 > 2020 > 2007$$

$$\text{ie. } 7 \cdot 2007 > 2 \cdot 720 > 2 \cdot 700 > 2 \cdot 270 > 2 \cdot 020 > 2 \cdot 007$$

$$\therefore 7 \cdot 27 > 2 \cdot 72 > 2 \cdot 7 > 2 \cdot 27 > 2 \cdot 02 > 2 \cdot 007$$

## Exercise 6.4

①

$$(i) \frac{8}{10} + \frac{3}{10}$$

$$\frac{8}{10} \rightarrow 0.8$$

$$\frac{3}{10} \rightarrow 0.3$$

$$\therefore \begin{array}{r} 0.8 \\ + 0.3 \\ \hline 1.1 \end{array}$$

$$(ii) \frac{7}{10} + \frac{17}{10}$$

$$\frac{7}{10} \rightarrow 0.7$$

$$\frac{17}{10} \rightarrow 1.7$$

$$\therefore \begin{array}{r} 0.7 \\ + 1.7 \\ \hline 2.4 \end{array} \quad 270/557$$

$$(iii) 5 + \frac{3}{10}$$

$$\Rightarrow 5 + 0.3$$

$$\therefore \begin{array}{r} 5.0 \\ + 0.3 \\ \hline 5.3 \end{array}$$



$$(iv) \frac{4}{100} + \frac{9}{100} + \frac{3}{1000}$$

$$\frac{4}{100} \rightarrow 0.04$$

$$\frac{9}{100} \rightarrow 0.09$$

$$\frac{3}{1000} \rightarrow 0.003$$

$\therefore$

$$\begin{array}{r} 0.04 \\ 0.09 \\ 0.003 \\ \hline 0.133 \end{array}$$

(2)

$$(i) \begin{array}{r} 6.8 \\ 32.25 \\ 20.315 \\ + 38.09 \\ \hline 97.455 \end{array}$$

$$(ii) \begin{array}{r} 91.4 \\ 2.74 \\ 3.509 \\ + 0.846 \\ \hline 98.495 \end{array}$$

271/557

$$(iii) \begin{array}{r} 73.124 \\ 51.99 \\ 10.001 \\ + 100.01 \\ \hline 235.125 \end{array}$$

$$(iv) \begin{array}{r} 17.5 \\ 121.08 \\ 9.306 \\ + 0.357 \\ \hline 148.243 \end{array}$$

③

(i)  $23.9 + 9.1$

$$\begin{array}{r} \overset{\circ}{23.9} \\ + 9.1 \\ \hline 33.0 \end{array}$$

(ii)  $1.08 + 41.395$

$$\begin{array}{r} 1.08 \\ + 41.395 \\ \hline 42.475 \end{array}$$

④

(i)  $34.590$   
 $- 25.428$   

---

 $9.162$

(ii)  $13.46$   
 $- 9.51$   

---

 $3.95$

(iii)  $52.80$   
 $- 18.63$   

---

 $34.17$

(iv)  $108.350$   
 $- 52.032$   

---

 $56$   
 $272/557$

⑤

(i)  $11.357$   
 $- 6.078$   

---

 $5.279$

(ii)  $36.05$   
 $- 12.6$   

---

 $23.45$

$$\begin{array}{r} \text{(iii)} \quad 140.300 \\ - 58.257 \\ \hline 82.043 \end{array}$$

$$\begin{array}{r} \text{(iv)} \quad 214.780 \\ - 94.371 \\ \hline 120.409 \end{array}$$

⑥

Let the required number be  $x$ .

Thus, according to question,

$$3 \frac{356}{1000} + x = 6 \frac{138}{1000}$$

$$\therefore x = 6 \frac{138}{1000} - 3 \frac{356}{1000}$$

$$= 6.138 - 3.356$$

$$= 2.782$$

$$= 2 + .782 = \frac{2}{1} + \frac{782}{1000}$$

$$= 2 \frac{782}{1000}$$

## Exercise 6.5

①

$$(i) 210 \text{ g} = \frac{210}{1000} \text{ kg} = 0.21 \text{ kg}$$

$$(ii) 2 \text{ l } 690 \text{ ml} = 2 \text{ l} + \frac{690}{1000} \text{ l} = 2.69 \text{ l}$$

$$(iii) 35,758 \text{ p} = ₹ \frac{35758}{100} = ₹ 357.58$$

$$(iv) 41,075 \text{ m} = \frac{41075}{1000} \text{ km} = 41.075 \text{ km}$$

$$(v) 375 \text{ cm} = \frac{375}{100} \text{ m} = 3.75 \text{ m}$$

$$(vi) ₹ 73 \text{ and } 6 \text{ p} = ₹ 73 + \frac{₹ 6}{100} = ₹ 73 + ₹ 0.06 \\ = ₹ 73.06$$

$$(vii) 0.25 \text{ kg} = 0.25 \times 1000 \text{ g} = \frac{274}{557}$$

$$(viii) \frac{3}{5} \text{ m} = \frac{3}{5} \times 100 \text{ cm} = 60 \text{ cm}$$



$$(1X) \quad 1.25 \text{ km} = 1.25 \times 1000 \text{ m} = 1250 \text{ m}$$

$$(X) \quad 1\frac{3}{5} \text{ hours} = 1 \text{ hour} + \frac{3}{5} \text{ hours}$$

$$= 60 \text{ minutes} + \frac{3}{5} \times 60 \text{ minutes}$$

$$= 60 \text{ minutes} + 36 \text{ minutes}$$

$$= 96 \text{ minutes}$$

2

$$(i) \quad 1 \text{ kg} = (a) 100 \text{ g} \quad (b) 10 \text{ g} \quad \checkmark (c) 1000 \text{ g}$$

$$(ii) \quad 1 \text{ cm} = \checkmark (a) \frac{1}{100} \text{ m} \quad (b) \frac{1}{100} \text{ dm} \quad (c) \frac{1}{1000} \text{ m}$$

$$(iii) \quad 15 \text{ ml} = \checkmark (a) 0.015 \text{ l} \quad (b) 0.15 \text{ k} \quad (c) 1.5 \text{ k}$$

$$(iv) \quad 87540 \text{ mg} = (a) 875 \text{ g } 40 \text{ mg} \quad \checkmark (b) 87 \text{ g } 540 \text{ mg} \quad (c) 8754 \text{ kg}$$

$$(v) \quad ₹ 675 \text{ and } 5 \text{ paise} = (a) ₹ 67.55 \quad (b) ₹ 675.50 \quad \checkmark (c) ₹ 675.05$$

$$\textcircled{3} \quad \text{Total money they have} = ₹ 20 + ₹ 20 + ₹ 20 \\ = ₹ 60.$$

$$\text{Total money they spent together} = ₹ 25.50 \\ + ₹ 12.65 + ₹ 275/557 \\ = ₹ 58.90$$

$$\text{Money left with them} = ₹ 60 - ₹ 58.90 \\ = ₹ 1.10$$

④ Sum of all the sides of a park

$$= 35.2 \text{ m} + 20.85 \text{ m} + 25.7 \text{ m} + 38.55 \text{ m}$$

$$= 120.3 \text{ m}$$

Given that, space for entrance = 4 m.

Thus,

Required length of the wire needed for

$$\text{fencing} = 120.3 \text{ m} - 4 \text{ m} = 116.3 \text{ m}$$

⑤

⑥ Total distance travelled by Mukul

$$= 15.700 \text{ km} + 10.380 \text{ km} + 225.850 \text{ km}$$

$$= 251.93 \text{ km}$$

$$= 251 \text{ km } 930 \text{ m}$$

00	0
15	700 km
10	380 km
225	850 km
<hr/>	
251	930

⑦ Capacity of water tank = 500 litres

Quantity of water consumed =

$$125.6 \text{ l} + 75.800 \text{ l} + 256.775 \text{ l}$$

$$= 458.175 \text{ l}$$

∴ Quantity of water left in the tank

$$= 500 \text{ l} - 458.175 \text{ l} = \underline{277/557} \text{ l}$$

⑧ Shambhu's total expenditure for a month = ₹ 3875.65 + ₹ 790.35 + ₹ 2570.60 + ₹ 263.40 + ₹ 4500

= ₹ 12000

Working.	
₹	P
3875	65
790	35
2570	60
263	40
4500	00
<hr/>	
12000	00

⑨ Temperature fell on Tuesday

=  $33.4^{\circ}\text{C} - 31.8^{\circ}\text{C} = 1.6^{\circ}\text{C}$

278/557
<hr/>
-31.8°C
<hr/>
1.6°C



⑩ Total rainfall had Tiruchi during the

$$\text{week} = 10.5 \text{ mm} + 9.2 \text{ mm} + 6.85 \text{ mm}$$

$$+ 7.15 \text{ mm} + 13.4 \text{ mm} + 4.7 \text{ mm} + 6.5 \text{ mm}$$

$$= 58.3 \text{ mm}$$

## Multiple choice Questions:

① (b)

Solution:

2 hundreds 4 tenths 7 hundredths =  $200.47$

② (b)

Solution:

$419.32$  has two decimal places.

③ (c)

Solution:

The place value of 4 in  $2.046$  is  $\frac{4}{100}$ .

④ (a)

Solution:

$7\frac{8}{10}$  can be written as  $7.8$ .

280/557

⑤ (d)

Solution:

$$0.125 = \frac{125}{1000} = \frac{125 \div 125}{1000 \div 125} = \frac{1}{8}$$

⑥ (c)  
solution:

5.08 is equivalent to 5.080

⑦ (b)

solution:

$$18 \text{ rupees } 5 \text{ paise} = ₹ 18 + ₹ \frac{5}{100} = ₹ 18.05$$

⑧ (b)

solution:

$$\begin{array}{r} 2.00 \\ + 0.2 \\ + 0.02 \\ \hline 2.22 \end{array}$$

⑨ (c)

solution:

$$\begin{array}{r} 15.40 \\ - 1.40 \\ \hline 14.00 \end{array}$$

$$14.00 = 14$$

⑩ (a)

solution:

$$2.5 \text{ cm} = 2.5 \times 10 \text{ mm} = 25 \text{ mm}$$

$$\therefore 25 \text{ mm} - 7 \text{ mm} = 18 \text{ mm} = \frac{18}{10} \text{ cm} = 1.8 \text{ cm}$$

### Value Based Questions:

①

(a) Total length of the strips that is given to Vimal and Madhavi =  $2.50\text{m} + 3.60\text{m}$   
 $= 6.10\text{m}$

(b) The length of the ribbon given to Sarju is  $4.30\text{m}$

(c) Total length of the ribbon bought by Himesh =  $2.50\text{m} + 4.30\text{m} + 3.60\text{m}$   
 $= 10.4\text{m}$

### Mental Maths

① True

② False

Explanation:

Zero point zero zero nine =  $0.009$ 

③ False

Explanation:  $400 + 1 + \frac{8}{1000} = 401.008$

(4) True

(5) False

Explanation:

$$0.5 = \frac{5}{10}$$

$$0.05 = \frac{5}{100}$$

$$0.005 = \frac{5}{1000}$$

$$\therefore \frac{5}{10} \neq \frac{5}{100} \neq \frac{5}{1000}$$

(6) True

(7) False

Explanation:

$$\begin{array}{r} 1.00 \\ 1.1 \\ + 1.11 \\ \hline 3.21 \end{array}$$

(8) True

(9) True

(10) True