EXERCISE 3.1

1.

(a) 6789.435

$$= 6 \times 1000 + 7 \times 100 + 8 \times 10 + 9 \times 1 + \frac{4}{10} + \frac{3}{100} + \frac{5}{1000}$$

(b) 2043.048

$$= 2 \times 1000 + 0 \times 100 + 4 \times 10 + 3 \times 1 + \frac{4}{100} + \frac{8}{1000}$$

(c) 9173.06

$$= 9 \times 1000 + 1 \times 100 + 7 \times 10 + 3 \times 1 + \frac{6}{100}$$

2.

(a) 4.001, 5.100, 7.060

(b) 23.6000, 5.0090, 0.0001

(c) 0.1000, 0.0010, 0.1010, 0.1100

(d) 53.000, 5.300, 0.053

3.

(a) 9000 (b) $\frac{9}{1000}$ (c) 900 (d) 9

(e) 90 (f) $\frac{9}{10}$ (g) $\frac{9}{100}$

4.

(a) $0.7 = \frac{7}{10}$

(b) $0.345 = \frac{345}{1000} = \frac{345 \div 5}{1000 \div 5} = \frac{69}{200}$

(c) $0.055 = \frac{55}{1000} = \frac{55 \div 5}{1000 \div 5} = \frac{11}{200}$

(d) $4.045 = \frac{4045}{1000} = \frac{4045 \div 5}{1000 \div 5} = \frac{809}{200}$

(e) $20.25 = \frac{2025}{100} = \frac{2025 \div 5}{100 \div 5} = \frac{405}{20} = \frac{405 \div 5}{20 \div 5} = \frac{81}{4}$

5.

(a) 3.030, 3.303, 3.003, 3.0033

Convert the given decimals into like decimals, we get

3.0300, 3.3030, 3.0030, 3.0033

These decimals can be arranged in descending order as

$3.3030 > 3.0300 > 3.0033 > 3.0030$

$\therefore 3.303 > 3.030 > 3.0033 > 3.003$

(b) 2.2222, 2.2, 2.22, 2.222

$\Rightarrow$ 2.2222, 2.2000, 2.2200, 2.2220

Arranging in descending order we get,

$2.2222 < 2.2220 < 2.2200 < 2.2000$

$\therefore 2.2222 > 2.222 > 2.22 > 2.2$

(c) 0.342, 0.313, 0.369, 0.323

Arranging in descending order we get,

$0.369 > 0.342 > 0.323 > 0.313$

(d) 7.45, 7.459, 7.4591, 7.4595

$\Rightarrow$ 7.4500, 7.4590, 7.4591, 7.4595

Arranging in descending order we get,

$7.4595 > 7.4591 > 7.4590 > 7.4500$

$\therefore 7.4595 > 7.4591 > 7.459 > 7.45$

6.

(a)

$\frac{4}{10} = 0.4$

(b)

$\frac{493}{10} = 49.3$

(c)

$\frac{893}{1000} = 0.893$

(d)

$\frac{45}{1000} = 0.045$

(e)

$\frac{4545}{100} = 45.45$

(f)

$\frac{4}{25} = \frac{4 \times 4}{25 \times 4} = \frac{16}{100} = 0.16$

(g)

$\frac{7}{35} = 0.2$

$$35\overline{)\,70}\,\overline{0.2}$$
$$\underline{-70}$$
$$\times$$

(h)

$$\frac{8}{200}=\frac{8\times 5}{200\times 5}=\frac{40}{1000}=0.04$$

(i)

$$\frac{75}{45}=\frac{15}{9}=1.666$$

(j)

$$\frac{22}{110}=0.2$$

7.

(a)

$$7\frac{3}{4}=\frac{7\times 4+3}{4}=\frac{31}{4}=7.75$$

$$\begin{array}{r} 7.75 \\ 4\overline{)31} \\ \underline{-28} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-20} \\ \times \end{array}$$

(b)

$$\frac{45}{20}=2.25$$

$$\begin{array}{r} 2.25 \\ 20\overline{)45} \\ \underline{-40} \\ 50 \\ \underline{-40} \\ 100 \\ \underline{-100} \\ \times \end{array}$$

(c)

$$\frac{9}{20}=0.45$$

$$\begin{array}{r} 0.45 \\ 20\overline{)90} \\ \underline{-80} \\ 100 \\ \underline{-100} \\ \times \end{array}$$

(d)

$$\frac{10}{20}=0.5$$

$$\begin{array}{r} 0.5 \\ 20\overline{)100} \\ \underline{100} \\ 0 \end{array}$$

(e)

$\frac{75}{50} = 1.5$

$$\begin{array}{r} 1.5 \\ 50\overline{)\,75} \\ \underline{50} \\ 250 \\ \underline{-250} \\ \times \end{array}$$

8.

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

(b)

$3.25 = \frac{325}{100} = \frac{13}{4} = 3\frac{1}{4}$

(c)

$15.750 = \frac{15750}{1000} = \frac{63}{4}$ or $15\frac{3}{4}$

(d)

$0.025 = \frac{25}{1000} = \frac{1}{40}$

(e)

$5.625 = \frac{5625}{1000} = \frac{45}{8}$ or $5\frac{5}{8}$

EXERCISE 3.2

1.

(a) 5.2 + 3.9

$$\begin{array}{r} 5.2 \\ +3.9 \\ \hline 9.1 \end{array}$$

(b) 7.45 + 8.07 = 15.52

(c) 17.21 + 6.123
17.210 + 6.123 = 23.333

(d) 13.08 + 8.23 = 21.31

(e) 105.23 + 451.028
105.230 + 451.028 = 556.258

(f) 4.12 + 4.03 + 3.78 = 11.93

(g) 36.13 + 123.34 + 0.062

36.130 + 123.340 + 0.062 = 159.532

2.

(a) 17 – 3.18 = 17.00 – 3.18

$$\begin{array}{r} 17.00 \\ -\ 3.18 \\ \hline 13.82 \end{array}$$

(b) 56.48 – 26.19 = 30.29

(c) 12.421 – 9.210 = 3.211

(d) 34.1– 1.02 – 2.13

34.10 – 1.02 – 2.13 = 34.10 – 3.15 = 30.95

(e) 100.129 – 99.123 = 1.006

(f) 67.2 – 23.12 – 0.08

67.20 – 23.12 – 0.08 = 67.20 – 23.20 = 44

(g) 400.17 – 192.37 = 207.80 or 207.8

3.

(a) 0.561 + 5.6 + 1.72

= 0.561 + 5.600 + 1.720 = 7.881

(b) 7.892 – 5.781 + 4.23 – 5

= 7.892 + 4.23 – 5.781 – 5 = 12.122 – 10.781 = 1.341

(c) 7.77 – 0.77 – 7.0

=7.77 – 7.77 = 0

(d) –7.27 + 7.4 + 2.679

= –7.27 + 10.079 = 2.809

(e) 98.9 – 9.89 + 0.989

= 98.9 + 0.989 – 9.89 = 99.889 – 9.89 = 89.999

4.

Quantity of cabbage bought by Drishti = 2 kg 350 g

Quantity of tomatoes bought by Drishti = 5 kg 250 g

Total quantity bought by Drishti =

= 7 kg 600 g

kg	g
2	350
5	250
7	600

Quantity of cauliflower bought by Srishti = 3 kg 250 g

Quantity of potatoes bought by Srishti = 4 kg 350 g

Total quantity bought by Shrishti =

= 7 kg 600 g

No difference in weight of shopping.

kg	g
3	250
4	350
7	600

5.

Quantity of flour Sarita bought = 11 kg 500 g

Quantity of flour used for rotis = 8 kg 250 g

	kg	g
Quantity of flour used to make halwa =	11	500
	– 8	250
= 3 kg 250 g	3	250

= 3.250 kg

6. The average distance of Neptune from sun is = 30.07 AU = 30.070 AU
The average distance of Mars from sun is = 1.524 AU
Neptune is farther from the Sun than Mars by =
The average distance of Neptune from sun = 30.070 AU
– The average distance of Mars from sun = – 1.524 AU
= 28.546 AU

7. Height of an iceberg above sea level = 4.5 m = 4.500 m
Part of the iceberg below the sea level = 0.875 m
The total height of the iceberg = 4.500 m
= + 0.875 m
5.375 m