## Exercise: 8.1

1. Write the following as numbers in the given table.

<table>
<thead>
<tr>
<th>Hundreds (100)</th>
<th>Tens (10)</th>
<th>Ones (1)</th>
<th>Tenths (1/10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>(b)</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

### Solution:

From the given figure, we get

<table>
<thead>
<tr>
<th></th>
<th>Hundreds (100)</th>
<th>Tens (10)</th>
<th>Ones (1)</th>
<th>Tenths (1/10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>(b)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Write the following decimals in the place value table.

   (a) 19.4  
   (b) 0.3  
   (c) 10.6  
   (d) 205.9

### Solution:

(a) The number 19.4 can be expressed as

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
(b) The number 0.3 can be expressed as

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

(c) The number 10.6 can be expressed as

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

(d) The number 205.9 can be expressed as

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>5</td>
<td>9</td>
</tr>
</tbody>
</table>

3. Write each of the following as decimals:
   
   (a) Seven-tenths
   
   Solution:
   
   \[
   \frac{7}{10} = 0.7 
   \]

   (b) Two tens and nine-tenths

   Solution:
   
   \[
   (2 \times 10) + (9 \times \frac{1}{10}) = 20 + 0.9 = 20.9 
   \]

   (c) Fourteen point six = 14.6

   (d) One hundred and two ones

   Solution:
   
   \[
   (1 \times 100) + (2 \times 1) = 100 + 2 = 102 
   \]

   (e) Six hundred point eight = 600.8

4. Write each of the following as decimals:

   (a) \( \frac{5}{10} \)
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td>$3 + \frac{7}{10}$</td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>$200 + 60 + 5 + \frac{1}{10}$</td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td>$70 + \frac{8}{10}$</td>
<td></td>
</tr>
<tr>
<td>(e)</td>
<td>$\frac{88}{10}$</td>
<td></td>
</tr>
<tr>
<td>(f)</td>
<td>$4 \frac{2}{10}$</td>
<td></td>
</tr>
<tr>
<td>(g)</td>
<td>$\frac{3}{2}$</td>
<td></td>
</tr>
<tr>
<td>(h)</td>
<td>$\frac{2}{5}$</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>$\frac{12}{5}$</td>
<td></td>
</tr>
<tr>
<td>(j)</td>
<td>$3 \frac{3}{5}$</td>
<td></td>
</tr>
<tr>
<td>(k)</td>
<td>$4 \frac{1}{2}$</td>
<td></td>
</tr>
</tbody>
</table>

**Solution:**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>$\frac{5}{10}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 0.5$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hence, $\frac{5}{10} = 0.5$</td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td>$3 + \frac{7}{10}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 3 + 0.7$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 3.7$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hence, $3 + \frac{7}{10} = 3.7$</td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td>$200 + 60 + 5 + \frac{1}{10}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 200 + 60 + 5 + 0.1$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 265.1$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hence, $200 + 60 + 5 + \frac{1}{10} = 265.1$</td>
<td></td>
</tr>
<tr>
<td>(d)</td>
<td>$70 + \frac{8}{10}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$= 70 + 0.8$</td>
<td></td>
</tr>
</tbody>
</table>
= 70.8
Hence, $70 + \frac{9}{10} = 70.8$

(e) \( \frac{88}{10} \)
\[
= \frac{80 + 8}{10}
\]
\[
= \frac{80}{10} + \frac{8}{10}
\]
\[
= 8 + \frac{8}{10}
\]
\[
= 8 + 0.8
\]
\[
= 8.8
\]
Hence, $\frac{88}{10} = 8.8$

(f) $4 \frac{2}{10}$
\[
= 4 + \frac{2}{10}
\]
\[
= 4 + 0.2
\]
\[
= 4.2
\]
Hence, $4 \frac{2}{10} = 4.2$

(g) $\frac{3}{2}$
\[
= \frac{3 \times 5}{2 \times 5}
\]
\[
= \frac{15}{10}
\]
\[
= \frac{10 + 5}{10}
\]
\[
= \frac{10}{10} + \frac{5}{10}
\]
\[
= 1 + 0.5
\]
\[
= 1.5
\]
Hence, $\frac{3}{2} = 1.5$
(h) \(\frac{2}{5}\)
\[
= \frac{2 \times 2}{5 \times 2}
= \frac{4}{10}
= 0.4
\]
Hence, \(\frac{2}{5} = 0.4\)

(i) \(\frac{12}{5}\)
\[
= \frac{12 \times 2}{5 \times 2}
= \frac{24}{10}
= \frac{20 + 4}{10}
= \frac{20}{10} + \frac{4}{10}
= 2 + 0.4
= 2.4
\]
Hence, \(\frac{12}{5} = 2.4\)

(j) \(3 \frac{3}{5}\)
\[
= 3 + \frac{3}{5}
= 3 + \frac{3 \times 2}{5 \times 2}
= 3 + \frac{6}{10}
= 3 + 0.6
= 3.6
\]
Hence, \(3 \frac{3}{5} = 3.6\)

(k) \(4 \frac{1}{2}\)
\[
= 4 + \frac{1}{2}
= 4 + \frac{1 \times 5}{2 \times 5}
= 4 + \frac{5}{10}
= 4 + 0.5
= 4.5
\]
Hence, \(4 \frac{1}{2}\) = 4.5

5. Write the following decimals as fractions. Reduce the fractions to lowest form.

(a) 0.6
(b) 2.5
(c) 1.0
(d) 3.8
(e) 13.7
(f) 21.2
(g) 6.4

Solution:

(a) 0.6
\[
= \frac{6}{10}
= \frac{3}{5}
\]
Hence, 0.6 = \(\frac{3}{5}\)

(b) 2.5
\[
= 2 + 0.5
= 2 + \frac{1}{2}
= \frac{5}{2}
\]
Hence, 2.5 = \(\frac{5}{2}\)
(c) \(1.0 = \frac{10}{10} = 1\)
Hence, \(1.0 = 1\)

(d) \(3.8 = 3 + \frac{8}{10} = 3 + \frac{4}{5} = \frac{19}{5}\)
Hence, \(3.8 = \frac{19}{5}\)

(e) \(13.7 = 13 + \frac{7}{10} = \frac{137}{10}\)
Hence, \(13.7 = \frac{137}{10}\)

(f) \(21.2 = 21 + \frac{2}{10} = 21 + \frac{1}{5} = \frac{106}{5}\)
Hence, \(21.2 = \frac{106}{5}\)

(g) \(6.4 = 6 + \frac{4}{10} = 6 + \frac{2}{5}\)
\begin{align*}
\frac{32}{5} &= 6.4 \\
\text{Hence, } 6.4 &= \frac{32}{5}
\end{align*}

6. Express the following as cm using decimals.

(a) 2 mm
(b) 30 mm
(c) 116 mm
(d) 4 cm 2 mm
(e) 162 mm
(f) 83 mm

**Solution:**

(a) We know that, \(10 \text{ mm} = 1 \text{ cm}\)
\[\therefore 1 \text{ mm} = \frac{1}{10} \text{ cm}\]
Hence, \(2 \text{ mm} = 2 \times \frac{1}{10} = 0.2 \text{ cm}\)

(b) We know that, \(10 \text{ mm} = 1 \text{ cm}\)
\[\therefore 1 \text{ mm} = \frac{1}{10} \text{ cm}\]
Hence, \(30 \text{ mm} = 30 \times \frac{1}{10} = 3.0 \text{ cm}\)

(c) We know that, \(10 \text{ mm} = 1 \text{ cm}\)
\[\therefore 1 \text{ mm} = \frac{1}{10} \text{ cm}\]
Hence, \(116 \text{ mm} = 116 \times \frac{1}{10} = 11.6 \text{ cm}\)

(d) We know that, \(10 \text{ mm} = 1 \text{ cm}\)
\[\therefore 1 \text{ mm} = \frac{1}{10} \text{ cm}\]

\[2 \text{ mm} = \frac{2}{10} \text{ cm}\]

\[4 \text{ cm} 2 \text{ mm} = 4 \text{ cm} + \frac{2}{10} \text{ cm}\]
\[= 4.2 \text{ cm}\]
Hence, 4 cm 2 mm = 4.2 cm

(e) We know that, 10 mm = 1 cm
\[1 \text{ mm} = \frac{1}{10} \text{ cm}\]
\[162 \text{ mm} = 162 \times \frac{1}{10}\]
\[= 16.2 \text{ cm}\]
Hence, 162 mm = 16.2 cm

(f) We know that, 10 mm = 1 cm
\[1 \text{ mm} = \frac{1}{10} \text{ cm}\]
\[83 \text{ mm} = 83 \times \frac{1}{10}\]
\[= 8.3 \text{ cm}\]
Hence, 83 mm = 8.3 cm

7. Between which two whole numbers on the number line are the given numbers lie? Which of these whole numbers is nearer the number?

(a) 0.8
(b) 5.1
(c) 2.6
(d) 6.4
(e) 9.1
(f) 4.9

Solution:
(a) Given number 0.8 lies between 0 and 1.
The whole number 1 is nearer to 0.8
(b) Given number 5.1 lies between 5 and 6.
The whole number 5 is nearer to 5.1
(c) Given number 2.6 lies between 2 and 3.
The whole number 3 is nearer to 2.6
(d) Given number 6.4 lies between 6 and 7.
The whole number 6 is nearer to 6.4
(e) Given number 9.1 lies between 9 and 10.
The whole number 9 is nearer to 9.1
(f) Given number 4.9 lies between 4 and 5.
The whole number 5 is nearer to 4.9

8. Show the following numbers on the number line.
(a) 0.2
(b) 1.9
(c) 1.1
(d) 2.5

Solution:
(a) Given, 0.2
0.2 can be represented on the number line as below:

![Number Line 0.2]

Hence, 0.2 lies between 0 and 1.

(b) Given, 1.9
1.9 can be represented on the number line as below:

![Number Line 1.9]

Hence, 1.9 lies between 1 and 2.

(c) Given, 1.1
1.1 can be represented on the number line as below:

![Number Line 1.1]

Hence, 1.1 lies between 1 and 2

(d) Given, 2.5
2.5 can be represented on the number line as below:

Hence, 2.5 lies between 2 and 3

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

Solution:
Given figure is

Point A lies on 8\textsuperscript{th} part of 0 and 1.
\[ A = 0 + \frac{8}{10} = 0.8 \]

Point B lies on 3\textsuperscript{rd} part of 1 and 2.
\[ B = 1 + \frac{3}{10} = 1.3 \]

Point C lies on 2\textsuperscript{nd} part of 2 and 3.
\[ C = 2 + \frac{2}{10} = 2.2 \]

Point D lies on 9\textsuperscript{th} part of 2 and 3.
\[ D = 2 + \frac{9}{10} = 2.9 \]

Therefore, 0.8, 1.3, 2.2 and 2.9 are represented by the points A, B, C and D respectively.

10. (a) The length of Ramesh’s notebook is 9 cm 5 mm. What will be its length in cm?
(b) The length of a young gram plant is 65 mm. Express its length in cm.

Solution:
(a) Given length of Ramesh notebook = 9 cm 5 mm
\[ \therefore 10\text{ mm} = 1\text{ cm} \]
1 mm = \frac{1}{10} \text{ cm}

9 \text{ cm} 5 \text{ mm} = 9 \text{ cm} + 5 \text{ mm}

= 9 + \frac{5}{10}

= 9.5 \text{ cm}

Hence, length of Ramesh notebook in (cm) = 9.5 cm.

(b) Given length of a young gram plant = 65 mm

\therefore 10 \text{ mm} = 1 \text{ cm}

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

65 \text{ mm} = \frac{65}{10} \text{ cm}

= 6.5 \text{ cm}

Hence, length of a young gram plant in (cm) = 6.5 cm.

**Exercise: 8.2**

1. Complete the table with help of these boxes and use decimals to write the number:

<table>
<thead>
<tr>
<th></th>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Solution:

(a) From the given figure, we can observe that 26 small squares are marked.
Hence, the decimal number representing given block diagram is \( \frac{26}{100} \).

(b) From the given figure, we can observe that 138 small squares are marked.
Hence, the decimal number representing given block diagram is \( \frac{138}{100} \).

(c) From the given figure, we can observe that 128 small squares are marked.
Hence, the decimal number representing given block diagram is \( \frac{128}{100} \).

<table>
<thead>
<tr>
<th></th>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>0.26</td>
</tr>
<tr>
<td>(b)</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>1.38</td>
</tr>
<tr>
<td>(c)</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>1.28</td>
</tr>
</tbody>
</table>

2. Write the numbers given in the following place value table in decimal form.

<table>
<thead>
<tr>
<th></th>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>(b)</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>(c)</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>(d)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>(e)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Solution:

(a) From the given table, we get

\[
0 \times 100 + 0 \times 10 + 3 \times 1 + 2 \times \frac{1}{10} + 5 \times \frac{1}{100} + 0 \times \frac{1}{1000} \\
= 0 + 0 + 3 + 0.2 + 0.05 + 0 \\
= 3.25
\]
Hence, the required answer is 3.25

(b) From the given table, we get

\[ 1 \times 100 + 0 \times 10 + 2 \times 1 + 6 \times \frac{1}{10} + 3 \times \frac{1}{100} + 0 \times \frac{1}{1000} \]
\[ = 100 + 0 + 2 + 0.6 + 0.03 + 0 \]
\[ = 102.63 \]

Hence, the required answer is 102.63

(c) From the given table, we get

\[ 0 \times 100 + 3 \times 10 + 0 \times 1 + 0 \times \frac{1}{10} + 2 \times \frac{1}{100} + 5 \times \frac{1}{1000} \]
\[ = 0 + 30 + 0 + 0 + 0.02 + 0.005 \]
\[ = 30.025 \]

Hence, the required answer is 30.025

(d) From the given table, we get

\[ 2 \times 100 + 1 \times 10 + 1 \times 1 + 9 \times \frac{1}{10} + 0 \times \frac{1}{100} + 2 \times \frac{1}{1000} \]
\[ = 200 + 10 + 1 + 0.9 + 0 + 0.002 \]
\[ = 211.902 \]

Hence, the required answer is 211.902

(e) From the given table, we get

\[ 0 \times 100 + 1 \times 10 + 2 \times 1 + 2 \times \frac{1}{10} + 4 \times \frac{1}{100} + 1 \times \frac{1}{1000} \]
\[ = 0 + 10 + 2 + 0.2 + 0.04 + 0.001 \]
\[ = 12.241 \]

Hence, the required answer is 12.241

3. Write the following decimals in the place value table.

(a) 0.29

(b) 2.08

(c) 19.60

(d) 148.32

(e) 200.812
Solution:

(a) \[ 0.29 = \frac{2}{10} + \frac{9}{100} \]
(b) \[ 2.08 = 2 + \frac{8}{100} \]
(c) \[ 19.6 = 1 \times 10 + 9 \times 1 + \frac{6}{10} \]
(d) \[ 148.32 = 1 \times 100 + 4 \times 10 + 8 \times 1 + \frac{3}{10} + \frac{2}{100} \]
(e) \[ 200.812 = 2 \times 100 + \frac{8}{10} + \frac{1}{100} + \frac{2}{1000} \]

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Hundredths</th>
<th>Tens</th>
<th>Ones</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 0.29</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>(b) 2.08</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>(c) 19.60</td>
<td>0</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(d) 148.32</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>(e) 200.812</td>
<td>2</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

4. Write each of the following as decimals.

(a) \[ 20 + 9 + \frac{4}{10} + \frac{1}{100} \]
(b) \[ 137 + \frac{5}{100} \]
(c) \[ \frac{7}{10} + \frac{6}{100} + \frac{4}{1000} \]
(d) \[ 23 + \frac{2}{10} + \frac{6}{1000} \]
(e) \[ 700 + 20 + 5 + \frac{9}{100} \]

Solution:

(a) \[ 20 + 9 + \frac{4}{10} + \frac{1}{100} \]
\[ = 20 + 9 + 0.4 + 0.01 \]
\[ = 29.41 \]
Hence, the required answer is 29.41

(b) \[ 137 + \frac{5}{100} \]
\[ = 137 + 0.05 \]
= 137.05
Hence, the required answer is 137.05

(c) \( \frac{7}{10} + \frac{6}{100} + \frac{4}{1000} \)
= 0.7 + 0.06 + 0.004
= 0.764
Hence, the required answer is 0.764

(d) \( 23 + \frac{2}{10} + \frac{6}{1000} \)
= 23 + 0.2 + 0.006
= 23.206
Hence, the required answer is 23.206

(e) \( 700 + 20 + 5 + \frac{9}{100} \)
= 700 + 20 + 5 + 0.09
= 725.09
Hence, the required answer is 725.09

5. Write each of the following decimals in words.

(a) 0.03
(b) 1.20
(c) 108.56
(d) 10.07
(e) 0.032
(f) 5.008

Solution:

(a) Decimal number 0.03 in words is Zero point zero three.
(b) Decimal number 1.20 in words is One point two zero.
(c) Decimal number 108.56 in words is One hundred and eight point five six.
(d) Decimal number 10.07 in words is Ten point zero seven.
(e) Decimal number 0.032 in words is Zero point zero three two.
(f) Decimal number 5.008 in words is Five point zero zero eight.
6. Between which two numbers in tenths place on the number line does each of the given numbers lie?
   (a) 0.06
   (b) 0.45
   (c) 0.19
   (d) 0.66
   (e) 0.92
   (f) 0.57

   **Solution:**
   (a) 0.06 lies between 0 and 0.1
   (b) 0.45 lies between 0.4 and 0.5
   (c) 0.19 lies between 0.1 and 0.2
   (d) 0.66 lies between 0.6 and 0.7
   (e) 0.92 lies between 0.9 and 1
   (f) 0.57 lies between 0.5 and 0.6

7. Write as fractions in lowest terms.
   (a) 0.60
   (b) 0.05
   (c) 0.75
   (d) 0.18
   (e) 0.25
   (f) 0.125
   (g) 0.066

   **Solution:**
   (a) \(0.60 = \frac{6}{10} = \frac{3}{5}\)
   Hence, the required answer is \(\frac{3}{5}\)
(b) 0.05 = \frac{5}{100} = \frac{1}{20}

Hence, the required answer is \frac{1}{20}

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

Hence, the required answer is \frac{3}{4}

(d) 0.18 = \frac{18}{100} = \frac{9}{50}

Hence, the required answer is \frac{9}{50}

(e) 0.25 = \frac{25}{100} = \frac{1}{4}

Hence, the required answer is \frac{1}{4}

(f) 0.125 = \frac{125}{1000} = \frac{1}{8}

Hence, the required answer is \frac{1}{8}

(g) 0.066
= \frac{66}{1000} = \frac{33}{500}

Hence, the required answer is \( \frac{33}{500} \)

**Exercise: 8.3**

1. Which is greater?
   (a) 0.3 or 0.4
   (b) 0.07 or 0.02
   (c) 3 or 0.8
   (d) 0.5 or 0.05
   (e) 1.23 or 1.2
   (f) 0.099 or 0.19
   (g) 1.5 or 1.50
   (h) 1.431 or 1.490
   (i) 3.3 or 3.300
   (j) 5.64 or 5.603

**Solution:**

(a) \( 0.3 = \frac{3}{10} \)

\( 0.4 = \frac{4}{10} \)

\( \frac{4}{10} \) is greater than \( \frac{3}{10} \)

Hence, \( 0.4 > 0.3 \)

(b) \( 0.07 = \frac{7}{100} \)

\( 0.02 = \frac{2}{100} \)

Clearly, \( \frac{7}{100} \) is greater than \( \frac{2}{100} \)

Hence, \( 0.07 > 0.02 \)

(c) \( 0.8 = \frac{8}{10} \)
The whole number 3 is greater than 0.8
Hence, $3 > 0.8$

(d) $0.5 = \frac{5}{10}$
$0.05 = \frac{5}{100}$
Tenth part of 0.5 is greater than 0.05
Hence, $0.5 > 0.05$

(e) $1.23 = 1 + \frac{2}{10} + \frac{3}{100}$
$1.2 = 1 + \frac{2}{10}$
Hundredth part of 1.23 is greater than 1.2
Hence, $1.23 > 1.2$

(f) $0.099 = \frac{9}{100} + \frac{9}{1000}$
$0.19 = \frac{1}{10} + \frac{9}{100}$
Tenth part of 0.19 is greater than 0.099
Hence, $0.19 > 0.099$

(g) $1.50 = 1 + \frac{5}{10} + \frac{0}{100}$
$= 1 + \frac{5}{10}$
$= 1.5$
Hence, $1.50 = 1.5$

(h) $1.431 = 1 + \frac{4}{10} + \frac{3}{100} + \frac{1}{1000}$
$1.490 = 1 + \frac{4}{10} + \frac{9}{100} + \frac{0}{1000}$
Tenth part of 1.490 is greater than 1.431
Hence, $1.490 > 1.431$

(i) $3.300 = 3 + \frac{3}{10} + \frac{0}{100} + \frac{0}{1000}$
$= 3 + \frac{3}{10}$
= 3.3  
Hence, 3.300 = 3.3  

(j) \[5.64 = 5 + \frac{6}{10} + \frac{4}{100}\]
\[5.603 = 5 + \frac{6}{10} + \frac{0}{100} + \frac{3}{1000}\]
Hundredth part of 5.64 is greater than 5.603
Hence, 5.64 > 5.603

2. Make five more examples and find the greater number from them.

**Solution:**

(a) 4.67 or 4.623
\[4.67 = 4 + \frac{6}{10} + \frac{7}{100}\]
\[4.623 = 4 + \frac{6}{10} + \frac{2}{100} + \frac{3}{1000}\]
Hundredth part of 4.67 is greater than 4.623
Hence, 4.67 > 4.623

(b) 1.0009 or 1.0900
Hundredth part of 1.0900 is greater than 1.0009
Hence, 1.0900 > 1.0009

(c) 10.01 or 100.10
Hundreds place of 100.10 is greater than 10.01
Hence, 100.10 > 10.01

(d) 5.1000 or 5.0100
Tenth part of 5.1000 is greater than 5.0100
Hence, 5.1000 > 5.0100

(e) 4.213 or 421.300
Hundredth part of 421.300 is greater than 4.213
Hence, 421.300 > 4.213

**Exercise: 8.4**

1. Express as rupees using decimals.
(a) 5 paise

(b) 75 paise

(c) 20 paise

(d) 50 rupees 90 paise

(e) 725 paise

**Solution:**

(a) We know that, 1 paise = ₹ \( \frac{1}{100} \)

\[ \therefore 5 \text{ paise} = 5 \times \frac{1}{100} \]

\[ = ₹ 0.05 \]

Hence, 5 paise = ₹ 0.05

(b) We know that, 1 paise = ₹ \( \frac{1}{100} \)

\[ \therefore 75 \text{ paise} = 75 \times \frac{1}{100} \]

\[ = ₹ 0.75 \]

Hence, 75 paise = ₹ 0.75

(c) We know that, 1 paise = ₹ \( \frac{1}{100} \)

\[ \therefore 20 \text{ paise} = 20 \times \frac{1}{100} \]

\[ = ₹ 0.2 \]

Hence, 20 paise = ₹ 0.2

(d) We know that, 1 paise = ₹ \( \frac{1}{100} \)

\[ \therefore 50 \text{ rupees} + 90 \text{ paise} = 50 + 90 \times \frac{1}{100} \]

\[ = ₹ 50.90 \]

Hence, 50 rupees 90 paise = ₹ 50.90

(e) We know that, 1 paise = ₹ \( \frac{1}{100} \)

\[ \therefore 725 \text{ paise} = 725 \times \frac{1}{100} \]
2. Express as meters using decimals.
   (a) 15 cm
   (b) 6 cm
   (c) 2 m 45 cm
   (d) 9 m 7 cm
   (e) 419 cm

**Solution:**

(a) We know that, 1 cm = \( \frac{1}{100} \) m
   ∴ 15 cm = \( 15 \times \frac{1}{100} \)
   = 0.15 m
   Hence, 15 cm = 0.15 m

(b) We know that, 1 cm = \( \frac{1}{100} \) m
   ∴ 6 cm = \( 6 \times \frac{1}{100} \)
   = 0.06 m
   Hence, 6 cm = 0.06 m

(c) We know that, 1 cm = \( \frac{1}{100} \) m
   ∴ 2 m 45 cm = 2 + 45 \( \times \frac{1}{100} \)
   = 2.45 m
   Therefore, 2 m 45 cm = 2.45 m

(d) We know that, 1 cm = \( \frac{1}{100} \) m
   ∴ 9 m 7 cm = 9 + 7 \( \times \frac{1}{100} \)
   = 9.07 m

= \( \frac{725}{100} \)
= ₹ 7.25

Hence, 725 paise = ₹ 7.25
Hence, 9m 7cm = 9.07 m

(e) We know that, 1 cm = \( \frac{1}{100} \) m

\[
\therefore 419 \text{ cm} = 419 \times \frac{1}{100}
\]

\[
= \frac{419}{100}
\]

\[
= 4.19 \text{ m}
\]

Hence, 419 cm = 4.19 m

3. Express as cm using decimals.
   (a) 5 mm
   (b) 60 mm
   (c) 164 mm
   (d) 9 cm 8 mm
   (e) 93 mm

Solution:

(a) \( \therefore 1 \text{ mm} = \frac{1}{10} \text{ cm} \)

\[
\therefore 5 \text{ mm} = 5 \times \frac{1}{10}
\]

\[
= 0.5 \text{ cm}
\]

Therefore, 5 mm = 0.5 cm

(b) \( \therefore 1 \text{ mm} = \frac{1}{10} \text{ cm} \)

\[
\therefore 60 \text{ mm} = 60 \times \frac{1}{10}
\]

\[
= 6 \text{ cm}
\]

Hence, 60 mm = 6 cm

(c) \( \therefore 1 \text{ mm} = \frac{1}{10} \text{ cm} \)

\[
\therefore 164 \text{ mm} = 164 \times \frac{1}{10}
\]

\[
= 16.4 \text{ cm}
\]

Therefore, 164 mm = 16.4 cm
(d) \[ \therefore 1 \text{ mm} = \frac{1}{10} \text{ cm} \]
\[ \therefore 9\text{ cm} 8 \text{ mm} = 9 + 8 \times \frac{1}{10} \]
\[ = 9 + 0.8 \]
\[ = 9.8 \text{ cm} \]

Hence, \(9\text{ cm} 8 \text{ mm} = 9.8 \text{ cm}\)

(e) \[ \therefore 1 \text{ mm} = \frac{1}{10} \text{ cm} \]
\[ \therefore 93 \text{ mm} = 93 \times \frac{1}{10} \]
\[ = 9.3 \text{ cm} \]

Hence, \(93 \text{ mm} = 9.3 \text{ cm}\)

4. Express as km using decimals.
(a) 8 m
(b) 88 m
(c) 8888 m
(d) 70 km 5 m

**Solution:**

(a) \[ \therefore 1 \text{ m} = \frac{1}{1000} \text{ km} \]
\[ \therefore 8 \text{ m} = 8 \times \frac{1}{1000} \]
\[ = 0.008 \text{ km} \]

Hence, \(8 \text{ m} = 0.008 \text{ km}\)

(b) \[ \therefore 1 \text{ m} = \frac{1}{1000} \text{ km} \]
\[ \therefore 88 \text{ m} = 88 \times \frac{1}{1000} \]
\[ = 0.088 \text{ km} \]

Hence, \(88 \text{ m} = 0.088 \text{ km}\)

(c) \[ \therefore 1 \text{ m} = \frac{1}{1000} \text{ km} \]
\[ \therefore 8888 \text{ m} = 8888 \times \frac{1}{1000} \]
= 8.888 km
Hence, 8888 m = 8.888 km

(d) ∴ 1 m = \( \frac{1}{1000} \) km

∴ 70km 5 m = \( 70 + 5 \times \frac{1}{1000} \)

= 70.005 km

Hence, 70km 5 m = 70.005 km

5. Express as kg using decimals.

(a) 2 g

(b) 100 g

(c) 3750 g

(d) 5 kg 8 g

(e) 26 kg 50 g

Solution:

(a) We know that, \( 1 \) g = \( \frac{1}{1000} \) kg

∴ 2 g = \( 2 \times \frac{1}{1000} \)

= 0.002 kg

Hence, 2 g = 0.002 kg

(b) We know that, \( 1 \) g = \( \frac{1}{1000} \) kg

∴ 100 g = \( 100 \times \frac{1}{1000} \)

= 0.1 kg

Hence, 100 g = 0.1 kg

(c) We know that, \( 1 \) g = \( \frac{1}{1000} \) kg

∴ 3750 g = \( 3750 \times \frac{1}{1000} \)

= 3.750 kg

Hence, 3750 g = 3.750 kg
(d) We know that, \(1 \text{ g} = \frac{1}{1000} \text{ kg}\)

\[
\therefore 5\text{kg} 8\text{ g} = 5 + 8 \times \frac{1}{1000}
\]

\[= 5.008 \text{ kg}\]

Hence, \(5\text{kg} 8\text{ g} = 5.008 \text{ kg}\)

(e) We know that, \(1 \text{ g} = \frac{1}{1000} \text{ kg}\)

\[
\therefore 26\text{ kg} 50\text{ g} = 26 + 50 \times \frac{1}{1000}
\]

\[= 26.050 \text{ kg}\]

Hence, \(26\text{ kg} 50\text{ g} = 26.050 \text{ kg}\)

**Exercise: 8.5**

1. Find the sum in each of the following:

   (a) \(0.007 + 8.5 + 30.08\)
   
   (b) \(15 + 0.632 + 13.8\)
   
   (c) \(27.076 + 0.55 + 0.004\)
   
   (d) \(25.65 + 9.005 + 3.7\)
   
   (e) \(0.75 + 10.425 + 2\)
   
   (f) \(280.69 + 25.2 + 38\)

**Solution:**

(a) Given, \(0.007 + 8.5 + 30.08\)

\[
\begin{array}{cccccc}
H & T & O & . & Tenth & Hund. Thou. \\
0 & . & 0 & 0 & 7 \\
8 & . & 5 \\
+ & & & & \\
3 & 0 & . & 0 & 8 \\
\hline
3 & 8 & . & 0 & 8 & 7 \\
\end{array}
\]

= 38.587

Therefore, the required answer is 38.587

(b) Given, \(15 + 0.632 + 13.8\)

\[
\begin{array}{cccccc}
H & T & O & . & Tenth & Hund. Thou. \\
0 & 1 & 5 & . & 0 & 0 & 0 \\
. & . & 6 & 3 & 2 \\
+ & 1 & 3 & . & 8 \\
\hline
2 & 9 & . & 4 & 3 & 2 \\
\end{array}
\]

= 29.432
Therefore, the required answer is 29.432

(c) Given, $27.076 + 0.55 + 0.004$

\[
\begin{array}{c|c|c|c|c|c}
\text{H} & \text{T} & \text{O} & \text{Tenth} & \text{Hund. Thou.} \\
\hline
2 & 7 & 0 & 0 & 7 \\
. & 5 & 5 \\
\hline
+ & 0 & 0 & 4 \\
\hline
2 & 7 & 0 & 6 & 3 & 0
\end{array}
= 27.630
\]

Therefore, the required answer is 27.630

(d) Given, $25.65 + 9.005 + 3.7$

\[
\begin{array}{c|c|c|c|c|c}
\text{H} & \text{T} & \text{O} & \text{Tenth} & \text{Hund. Thou.} \\
\hline
2 & 5 & 6 & 5 & 5 \\
9 & 0 & 0 & 5 \\
3 & 7 \\
\hline
3 & 8 & 8 & 3 & 5 & 5
\end{array}
= 38.355
\]

Therefore, the required answer is 38.355

(e) Given, $0.75 + 10.425 + 2$

\[
\begin{array}{c|c|c|c|c|c}
\text{H} & \text{T} & \text{O} & \text{Tenth} & \text{Hund. Thou.} \\
\hline
1 & 0 & 7 & 5 & 5 \\
1 & 4 & 2 & 5 \\
\hline
1 & 3 & 1 & 7 & 5
\end{array}
= 13.175
\]

Therefore, the required answer is 13.175

(f) Given, $280.69 + 25.2 + 38$

\[
\begin{array}{c|c|c|c|c|c}
\text{H} & \text{T} & \text{O} & \text{Tenth} & \text{Hund. Thou.} \\
\hline
2 & 8 & 0 & 6 & 9 \\
2 & 5 & 2 \\
3 & 8 \\
\hline
3 & 4 & 3 & 8 & 9
\end{array}
= 343.89
\]

Therefore, the required answer is 343.89

2. Rashid spent ₹ 35.75 for Maths book and ₹ 32.60 for Science book. Find the total amount spent by Rashid.

Solution:

Given, Money spent for math book = ₹ 35.75

Money spent for science book = ₹ 32.60
Total money spent = ₹ 35.75 + ₹ 32.60 = ₹ 68.35

Hence, total money spent by Rashid is ₹ 68.35

3. Radhika’s mother gave her ₹ 10.50 and her father gave her ₹ 15.80, find the total amount given to Radhika by the parents.

Solution:
Given, Money given by mother = ₹ 10.50
Money given by father = ₹ 15.80
Total money received by Radhika = ₹ 10.50 + ₹ 15.80 = ₹ 26.30
Hence, total money received by Radhika is ₹ 26.30

4. Nasreen bought 3 m 20 cm cloth for her shirt and 2 m 5 cm cloth for her trouser. Find the total length of cloth bought by her.

Solution:
We know that 1 mm = \( \frac{1}{10} \) cm

Given, Cloth bought for shirt = 3 m 20 cm = 3.20 m
Cloth bought for trouser = 2 m 5 cm = 2.05 m
Total length of cloth bought by Nasreen = 3.20 + 2.05 = 5.25 m
Hence, the total length of cloth bought by Nasreen is 5.25 m

5. Naresh walked 2 km 35 m in the morning and 1 km 7 m in the evening. How much distance did he walk in all?

Solution:
We know that 1 m = \( \frac{1}{1000} \) km

Given, Distance travelled in morning = 2 km 35 m = 2.035 km
Distance travelled in evening = 1 km 7 m = 1.007 km
Total distance travelled = 2.035 + 1.007 = 3.042 km
Hence, the total distance travelled by Naresh is 3.042 km

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

Solution:
We know that 1 m = \( \frac{1}{1000} \) km

Given, Distance travelled by bus = 15 km 268 m = 15.268 km
Distance travelled by car = 7 km 7 m = 7.007 km
Distance travelled on foot = 500 m = 0.500 km
Total distance travelled = 15.268 + 7.007 + 0.500 = 22.775 km
Hence, the total distance travelled by Sunita is 22.775 km

7. Ravi purchased 5 kg 400 g rice, 2 kg 20 g sugar and 10 kg 850 g flour. Find the total weight of his purchases.

Solution:
\[1 \text{ g} = \frac{1}{1000} \text{ kg}\]
Given, Weight of Rice = 5 kg 400 g = 5.400 kg
Weight of Sugar = 2 kg 20 g = 2.020 kg
Weight of Flour = 10 kg 850 g = 10.850 kg
Total weight = 5.400 + 2.020 + 10.850 = 18.270 kg
Hence, the total weight of Ravi’s purchase = 18.270 kg

Exercise: 8.6
1. Subtract:
   (a) ₹ 18.25 from ₹ 20.75
   (b) 202.54 m from 250 m
   (c) ₹ 5.36 from ₹ 8.40
   (d) 2.051 km from 5.206 km
   (e) 0.314 kg from 2.107 kg

Solution:
(a) Given, ₹ 18.25 from ₹ 20.75
\[20.75 - 18.25 = 2.50\]
Hence, the required answer is ₹2.50
(b) Given, 202.54 m from 250 m
\[250 - 202.54 = 47.46\]
2.  Find the value of:
   (a) 9.756 – 6.28
   (b) 21.05 – 15.27
   (c) 18.5 – 6.79
   (d) 11.6 – 9.847

   Solution:
(a) Given, \(9.756 - 6.28\)

\[
\begin{array}{c}
9.756 \\
- 6.28 \\
\hline
3.476
\end{array}
\]

Hence, the required answer is 3.476

(b) Given, \(21.05 - 15.27\)

\[
\begin{array}{c}
21.05 \\
- 15.27 \\
\hline
05.78
\end{array}
\]

Hence, the required answer is 5.78

(c) Given, \(18.5 - 6.79\)

\[
\begin{array}{c}
18.50 \\
- 6.79 \\
\hline
11.71
\end{array}
\]

Hence, the required answer is 11.71

(d) Given, \(11.6 - 9.847\)

\[
\begin{array}{c}
11.600 \\
- 9.847 \\
\hline
1.753
\end{array}
\]

Hence, the required answer is 1.753

3. Raju bought a book for ₹35.65. He gave ₹50 to the shopkeeper. How much money did he get back from the shopkeeper?

**Solution:** Given,

Total amount given to shopkeeper = ₹50

Cost of book = ₹35.65

Amount left = ₹50.00 - ₹35.65

= ₹14.35
4. Rani had ₹18.50. She bought one ice-cream for ₹11.75. How much money does she have now?

Solution:
Given, Total money = ₹18.50
Cost of Ice-cream = ₹11.75
Amount left = ₹18.50 − ₹11.75
= ₹6.75
Therefore, rani has left with ₹6.75 now.

5. 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:
We know 1 cm = \(\frac{1}{100}\) m
Given, Total length of cloth = 20 m 5 cm = 20.05 m
Length of cloth used = 4 m 50 cm = 4.50 m
Remaining cloth = 20.05 m − 4.50 m = 15.55 m
Hence, 15.55 m of cloth is left with Tina.

6. Namita travels 20 km 50 m every day. Out of this she travels 10 km 200 m by bus and the rest by auto. How much distance does she travel by auto?

Solution:
We know that 1 m = \(\frac{1}{1000}\) km
Given, Total distance she travels = 20 km 50 m = 20.05 km
Distance travelled by bus = 10 km 200 m = 10.200 km
Distance travelled by auto = total distance − distance travelled by bus
Distance travelled by auto = 20.050 − 10.200 = 9.850 km
Therefore, 9.850 km distance travelled by auto.

7. Aakash bought vegetables weighing 10 kg. Out of this, 3 kg 500 g is onions, 2 kg 75 g is tomatoes and the rest is potatoes. What is the weight of the potatoes?

Solution:
∵ 1 g = \(\frac{1}{1000}\) kg

Hence, raju got back ₹14.35 from the shopkeeper.
Given, Weight of onions = 3 kg 500 g = 3.500 kg  
Weight of tomatoes = 2 kg 75g = 2.075 kg  
Total weight of onions and tomatoes = 3.500 + 2.075 = 5.575 kg  
Therefore, weight of potatoes is = 10.000 − 5.575 = 4.425 kg  
Hence, the weight of potatoes is 4.425 kg.