8.Decimals (Ex-8.1)

1. Write the following numbers in the given table.
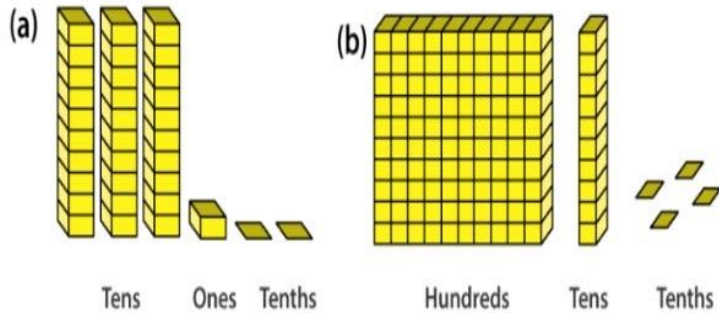
Hundreds	Tens	Ones	Tenths
(100)	(10)	(1)	(1 / 10)

Solutions:

Rows	Hundreds	Tens	Ones	Tenths
a	0	3	1	2
b	1	1	0	4

2. Write the following decimals in the place value table.
(a) 19.4
(b) 0.3
(c) 10.6
(d) 205.9
Solutions:

	Hundreds	Tens	Ones	Tenths
19.4	0	1	9	4
0.3	0	0	0	3
10.6	0	1	0	6
205.9	2	0	5	9

3. Write each of the following as decimals:
(a) Seven-tenths
(b) Two tens and nine-tenths
(c) Fourteen point six
(d) One hundred and two ones
(e) Six hundred point eight
Solutions:
(a) The decimal form of Seven-tenths is $7 / 10 = 0.7$
(b) The decimal form of two tens and nine tenths is $20 + 9 / 10 = 20.9$

(c) The decimal form of fourteen point six is 14.6

(d) The decimal form of one hundred and two ones is $100 + 2 = 102.0$

(e) The decimal form of six hundred point eight is 600.8

4. Write each of the following as decimals:

(a) 5 / 10

(b) 3 + 7 / 10

(c) 200 + 60 + 5 + 1 / 10

(d) 70 + 8 / 10

(e) 88 / 10

(f) $4\dfrac{2}{10}$

(g) 3 / 2

(h) 2 / 5

(i) 12 / 5

(j) $3\dfrac{3}{5}$

(k) $4\dfrac{1}{2}$

Solutions:

(a) $5 / 10 = 0.5$

(b) $3 + 7 / 10 = 3 + 0.7$
$= 3.7$

(c) $200 + 60 + 5 + 1 / 10 = 265 + 0.1$
$= 265.1$

(d) $70 + 8 / 10 = 70 + 0.8$
$= 70.8$

(e) $88 / 10 = 80 / 10 + 8 / 10$
$= 8 + 0.8$
$= 8.8$

(f)

$$4\dfrac{2}{10} = 4 + \dfrac{2}{10}$$
$= 4 + 0.2$
$= 4.2$

(g) $3 / 2 = (2 + 1) / 2$
$= 2 / 2 + 1 / 2$
$= 1 + 0.5$
$= 1.5$

(h) $2 / 5 = 0.4$

(i) $12 / 5 = (10 + 2) / 5$
$= 10 / 5 + 2 / 5$
$= 2 + 0.4$
$= 2.4$

(j)

$$3\frac{3}{5} = 3 + \frac{3}{5}$$
$$= 3 + 0.6$$
$$= 3.6$$

(k)
$$4\frac{1}{2} = 4 + \frac{1}{2}$$
$$= 4 + 0.5$$
$$= 4.5$$

5. Write the following decimals as fractions. Reduce the fraction to lowest form.
(a) 0.6
(b) 2.5
(c) 1.0
(d) 3.8
(e) 13.7
(f) 21.2
(g) 6.4

Solutions:
(a) 0.6 = 6 / 10
    = 3 / 5
(b) 2.5 = 25 / 10
    = 5 / 2
(c) 1.0 = 1
    = 1
(d) 3.8 = 38 / 10
    = 19 / 5
(e) 13. 7 = 137 / 10
(f) 21.2 = 212 / 10
    = 106 / 5
(g) 6.4 = 64 / 10
    = 32 / 5

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

Solutions:
We know that
    1 cm = 10 mm
    1 mm = 1 / 10 cm
(a) 2 mm = 2 / 10 cm
    = 0.2 cm

(b) 30 mm = 30 / 10 cm

      = 3.0 cm

(c) 116 mm = 116 / 10 cm

      = 11.6 cm

(d) 4 cm 2 mm = [(4 + 2 / 10)] cm

      = 4.2 cm

(e) 162 mm = 162 / 10 cm

      = 16.2 cm

(f) 83 mm = 83 / 10 cm

      = 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

Solutions:

(a) 0.8 lies between 0 and 1

      0.8 is nearer to 1

(b) 5.1 lies between 5 and 6

      5.1 is nearer to 5

(c) 2.6 lies between 2 and 3

      2.6 is nearer to 3

(d) 6.4 lies between 6 and 7

      6.4 is nearer to 6

(e) 9.1 lies between 9 and 10

      9.1 us nearer to 9

(f) 4.9 lies between 4 and 5

      4.9 is nearer to 5

8. Show the following numbers on the number line.
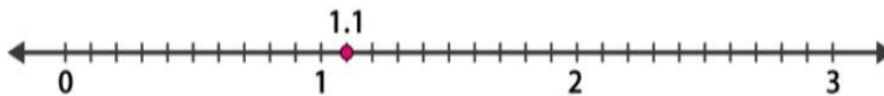
(a) 0.2

(b) 1.9

(c) 1.1

(d) 2.5

Solutions:

(a) 0.2 lies between the points 0 and 1 on the number line. The space between 0 and 1 is divided into 10 equal parts. Therefore each equal part will be equal to one-tenth. 0.2 is the second point between 0 and 1

(b) 1.9 lies between the points 1 and 2 on the number line. The space between 1 and 2 is divided into 10 equal parts. Therefore each equal part will be equal to one-tenth. 1.9 is the ninth point between 1 and 2

(c) 1.1 lies between the points 1 and 2 on the number line such that the space between 1 and 2 is divided into 10 equal parts. Therefore each equal part will be equal to one-tenth. 1.1 is the first point between 1 and 2
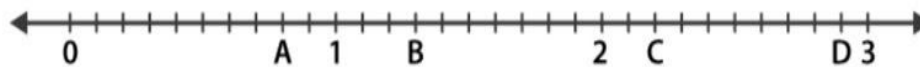

(d) 2.5 lies between the points 2 and 3 on the number line such that the space between 2 and 3 is divided into 10 equal parts. Therefore each equal part will be equal to one-tenth. 2.5 is the fifth point between 2 and 3
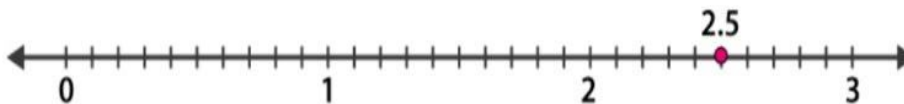
9. Write the decimal number represented by the points A, B, C, and D on the given number line.

Solutions:
(a) Point A represents 0.8 cm on the given number line.
(b) Point B represents 1.3 cm on the given number line
(c) Point C represents 2.2 cm on the given number line
(d) Point D represents 2.9 cm on the given number line

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.
Solutions:
(a) The length of Ramesh notebook is 9 cm 5 mm
       The length in cm is $[(9 + 5 / 10)]$ cm
       = 9.5 cm
(b) The length of a gram plant is 65 mm
       Hence, the length in cm is 65 / 10
       = 6.5 cm