

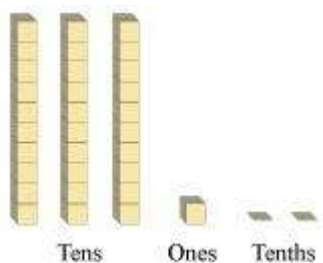
NCERT solution Decimals-1

Exercise 8.1

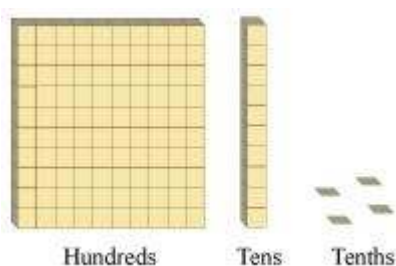
Question 1

Write the following as numbers in the given table.

(a)



(b)



Hundreds (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$
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Answer

One block divided into 10 equal parts means each part is $\frac{1}{10}$ (one-tenth) of a unit. It can be written as 0.1 in decimal notation. One block divided into 100 equal parts means each part is $\left(\frac{1}{100}\right)$ one-hundredth of a unit.

Hundreds (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$
0	3	1	2
1	1	0	4

Question 2

Write the following decimals in the place value table.

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

Answer

	Hundreds	Tens	Ones	Tenths
a)	0	1	9	4
b)	0	0	0	3
c)	0	1	0	6
d)	2	0	5	9

Question 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

Answer

Solution

- a) Seven-tenths
 $= 7/10 = .7$
- b) Two tens and nine tenths = $20 + 9/10 = 20 + .9 = 20.9$
- c) Fourteen point six = 14.6
- d) One hundred and two ones = $100 + 2 = 102$
- e) Six hundred point eight = 600.8

Question 4

Write each of the following as decimals:

(a) $5/10$

(b) $3 + \frac{7}{10}$

(c) $200 + 60 + 5 + \frac{1}{10}$

(d) $70 + \frac{8}{10}$

(e) $88/10$

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

(g) $3/2$

(h) $2/5$

(i) $12/5$

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

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

Answer

a)	$5/10$	There are 5 tenths in the number	.5
b)	$3 + \frac{7}{10}$	There are 3 ones and 7 tenths $3 + .7$	3.7
c)	$200 + 60 + 5 + \frac{1}{10}$	There are 2 hundred ,6 tens,5 ones and 1 tenth $200 + 60 + 5 + .1$	265.1
d)	$70 + \frac{8}{10}$	There are 7 tens, 0 ones and 8 tenths in the number	70.8
e)	$88/10$	Here the numerator is bigger than denominator, so converting into mixed fraction we get $8 + 8/10$	8.8
f)	$4\frac{2}{10}$	$4 + 2/10$	4.2
g)	$3/2$	For writing in decimal notation, the	1.5

		<p>denominator of the fraction should be 10. So, we make an equivalent fraction as,</p> $3/2 = 15/10$ <p>Here the numerator is bigger than denominator, so converting into mixed fraction we get</p> $1 + 5/10$	
h)	$2/5$	<p>For writing in decimal notation, the denominator of the fraction should be 10. So, we make an equivalent fraction as,</p> $2/5 = 4/10$.4
i)	$12/5$	<p>For writing in decimal notation, the denominator of the fraction should be 10. So, we make an equivalent fraction as,</p> $12/5 = 24/10$ <p>Here the numerator is bigger than denominator, so converting into mixed fraction we get</p> $2 + 4/10$	2.4
j)	$3\frac{3}{5}$	$3 + 3/5$ $= 3 + 6/10$	3.6

k)	$4\frac{1}{2}$	$4 + \frac{1}{2} = 4 + \frac{5}{10}$	4.5
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Question 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

Answer

a)	.6	$\frac{6}{10} = \frac{3}{5}$
b)	2.5	$\frac{25}{10} = \frac{5}{2}$
c)	1.0	1
d)	3.8	$\frac{38}{10} = \frac{19}{5}$
e)	13.7	$\frac{137}{10}$
f)	21.2	$\frac{212}{10} = \frac{106}{5}$
g)	6.4	$\frac{64}{10} = \frac{32}{5}$

Question 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

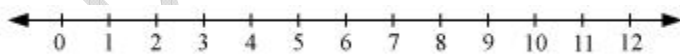
Answer

We know that $10 \text{ mm} = 1 \text{ cm}$ i.e. 1 mm is $1/10$ of centimeter

- a) $2 \text{ mm} = 2/10 \text{ cm} = .2 \text{ cm}$
- b) $30 \text{ mm} = 30/10 \text{ cm} = 3 \text{ cm}$
- c) $116 \text{ mm} = 116/10 \text{ cm} = 11.6 \text{ cm}$
- d) $4 \text{ cm } 2 \text{ mm} = (4 + 2/10) \text{ cm} = 4.2 \text{ cm}$
- e) $162 \text{ mm} = 162/10 \text{ cm} = 16.2 \text{ cm}$
- f) $83 \text{ mm} = 83/10 \text{ cm} = 8.3 \text{ cm}$

Question 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

Answer

- a) $0.8 = 0 + 8/10$
So, it lies between 0 and 1 and is nearer to 1.
- b) $5.1 = 5 + 1/10$
So, it lies between 5 and 6 and is nearer to 5.
- c) $2.6 = 2 + 6/10$
So, it lies between 2 and 3 and is nearer to 3.
- d) $6.4 = 6 + 4/10$
So, it lies between 6 and 7 and is nearer to 6.
- e) $9.1 = 9 + 1/10$
So, it lies between 9 and 10 and is nearer to 9.
- f) $4.9 = 4 + 9/10$
So, it lies between 4 and 5 and is nearer to 5.

Question 8

Show the following numbers on the number line.

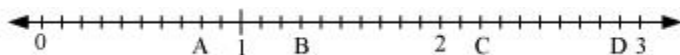
- (a) 0.2
- (b) 1.9
- (c) 1.1
- (d) 2.5

Answer

- a) 0.2 lies between 0 and 1. There are 2 tenths in it. Divide the unit length into 10 equal parts and 0.2 represents the 2nd part.
- b) 1.9 lies between 1 and 2. There are 9 tenths in it. 1.9 represents the ninth part after 1.
- c) 1.1 lies between 1 and 2. There are 1 tenth in it. 1.1 represents the first part after 1.
- d) 2.5 lies between 2 and 3. There are 5 tenths in it. 2.5 represents the fifth part after 2.

Question 9

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



Answer

Each interval is divided in ten equal parts and we can just count the part to get the value

a)	A	A represents the 8 th equal part between 0 and 1. So, A is 0.8.
b)	B	B represents the 3 rd equal part between 1 and 2. So, B is 1.3
c)	C	C represents the 2 nd equal part between 2 and 3 and hence is the number 2.2
d)	D	D is 2.9, the 9 th equal part between 2 and 3.

Question 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.

Answer

We know that $10 \text{ mm} = 1 \text{ cm}$ i.e. 1 mm is $1/10$ of centimeter

a) length = $9 \text{ cm} 5 \text{ mm} = 9 + 5/10 = 9.5 \text{ cm}$

b) length = $65 \text{ mm} = 65/10 = 6.5 \text{ cm}$

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