

EXERCISE 8.1

Write the following decimals in the place value table.

a) 19.4

b) 0.3

c) 10.6

d) 205.9

Answer:

Hundreds (100)	Tens (10)	Ones (1)	Tenths $(\frac{1}{10})$
0	1	9	4
0	0	0	3
0	1	0	6
2	0	5	9

2. 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:

a) 0.7

b) 20.9

c) 14.6

d) 102

e) 600.8

3. Write each of the following as decimals:

a) $\frac{5}{10}$

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

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

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

e) $\frac{88}{10}$

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

g) $\frac{3}{2}$

h) $\frac{2}{5}$

i) $\frac{12}{5}$

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

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

Answer:

a) 0.5

b) 3.7

c) 265.1

d) 70.8

e) 8.8

f) 4.2

g) 1.5

h) 0.4

i) 2.4

j) First convert mixed fraction into improper fraction

Then $3\frac{3}{5} = \frac{3 \times 5 + 3}{5} = \frac{18}{5}$

$$\frac{18}{5} = \frac{18 \times 2}{5 \times 2} = \frac{36}{10} = 3.6$$

$$\text{k) } 4 \frac{1}{2} = \frac{4 \times 2 + 1}{2} = \frac{9}{2}$$

$$\frac{9}{2} \times \frac{5}{5} = \frac{45}{10} = 4.5$$

4. 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:

$$\text{a) } 0.6 = \frac{6}{10}$$

$$\frac{6}{10} \div \frac{2}{2} = \frac{3}{5}, \text{ which is the lowest form.}$$

$$\text{b) } 2.5 = \frac{25}{10}$$

$$\frac{25}{10} \div \frac{5}{5} = \frac{5}{2}, \text{ which is the lowest form.}$$

c) 1.0 = 1 itself.

$$\text{d) } 3.8 = \frac{38}{10}$$

$$\frac{38}{10} \div \frac{2}{2} = \frac{19}{5}, \text{ which is the lowest form.}$$

$$\text{e) } 13.7 = \frac{137}{10}, \text{ which is the lowest form.}$$

$$\text{f) } 21.2 = \frac{212}{10}$$

$$\frac{212}{10} \div \frac{2}{2} = \frac{106}{5}, \text{ which is the lowest form.}$$

$$\text{g) } 6.4 = \frac{64}{10}$$

$\frac{64}{10} \div \frac{2}{5} = \frac{32}{5}$, which is the lowest form.

5. 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:

a) We know that 10 mm = 1 cm

Therefore, 1 mm = $\frac{1}{10}$ = 0.1 cm

So 2 mm = $\frac{2}{10}$ cm = 0.2 cm

b) 30 mm = $\frac{30}{10}$ cm = 3.0 cm

c) 116 mm = $\frac{116}{10}$ cm = 11.6 cm

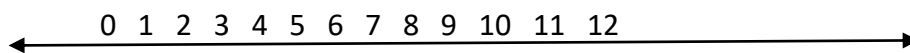
d) 4 cm 2 mm = 4.2 cm

e) 162 mm = $\frac{162}{10}$ cm = 16.2 cm

f) 83 mm = $\frac{83}{10}$ cm = 8.3 cm

6. 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 lies between 0 and 1.

1 is the nearest number.

b) 5.1 lies between 5 and 6.

5 is the nearest number.

c) 2.6 lies between 2 and 3.

3 is the nearest number.

d) 6.4 lies between 6 and 7.

6 is the nearest number.

e) 9.1 lies between 9 and 10.

9 is the nearest number.

f) 4.9 lies between 4 and 5.

5 is the nearest number.

7. Show the following numbers on the number line.

a) 0.2

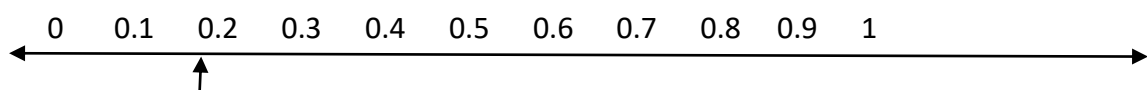
b) 1.9

c) 1.1

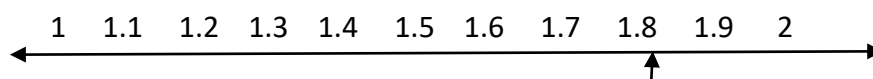
d) 2.5

Answer:

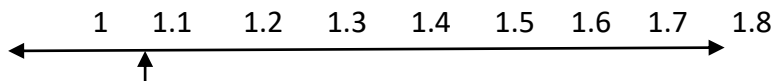
a) 0.2 lies between 0 and 1.



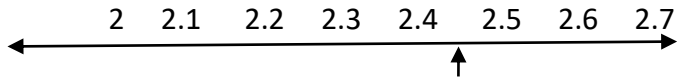
b) 1.9 lies between 1 and 2.



c) 1.1 lies between 1 and 2.



d) 2.5 lies between 2 and 3.



8. 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:

a) 9 cm 5 mm = 9.5 cm

b) 65 mm = $\frac{65}{10}$ cm = 6.5 cm

EXERCISE 8.2

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

	Hundreds 100	Tens 10	Ones 1	Tenths $\frac{1}{10}$	Hundreds $\frac{1}{100}$	Thousandths $\frac{1}{1000}$
(a)	0	0	3	2	5	0
(b)	1	0	2	6	3	0
(c)	0	3	0	0	2	5
(d)	2	1	1	9	0	2
(e)	0	1	2	2	4	1

Answer:

a) 3.25

b) 102.63

c) 30.025

d) 211.902

e) 12.241

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

a) 0.29

b) 2.08

c) 19.60

d) 148.32

e) 200.812

Answer:

	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
(a)	0	0	0	2	9	0
(b)	0	0	2	0	8	0
(c)	0	1	9	6	0	0
(d)	1	4	8	3	2	0
(e)	2	0	0	8	1	2

3. 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) $700 + 20 + 5 + \frac{9}{100}$

Answer:

a) 29.41

b) 137.05

c) 0.764

d) 23.206

e) 725.09

4. 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

Answer:

a) Zero point zero three

b) One point two zero

c) One hundred eight point five six

d) Ten point zero seven

e) Zero point zero three two

f) Five point zero zero eight

5. Between which two numbers in tenths place on the number line does each of the given number lie?

a) 0.06

b) 0.45

c) 0.19

d) 0.66

e) 0.92

f) 0.57

Answer:

a) 0 and 0.1

b) 0.4 and 0.5

c) 0.1 and 0.2

d) 0.6 and 0.7

e) 0.9 and 1.0

f) 0.5 and 0.6

6. 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

Answer:

$$a) 0.60 = \frac{60}{100} = \frac{6}{10} = \frac{3}{5}$$

$$b) 0.05 = \frac{5}{100} = \frac{1}{20}$$

$$c) 0.75 = \frac{75}{100} \div \frac{25}{25} = \frac{3}{4}$$

$$d) 0.18 = \frac{18}{100} \div \frac{2}{2} = \frac{9}{50}$$

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

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

$$g) 0.066 = \frac{66}{1000} \div \frac{2}{2} = \frac{33}{500}$$

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

Answer:

a) 0.4

b) 0.07

c) 3

d) 0.5

e) 1.23

f) 0.19

g) Both are equal.

h) 1.490

i) Both are equal.

j) 5.64

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

Answer:

a) 0.8 or 0.08

b) 1.25 or 1.2

c) 0.7 or 1

d) 1.2 or 1.20

e) 3 or 2.8

Answer:

a) 0.8

b) 1.25

c) 1

d) Both are equal.

e) 3

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

Answer:

We know that 100 paise = 1 rupee

Therefore, 1 paise = $\frac{1}{100}$ rupee = 0.01 rupee.

a) 5 paise = $\frac{5}{100}$ rupee = 0.05 rupee

b) 75 paise = $\frac{75}{100}$ rupee = 0.75 rupee

c) 20 paise = $\frac{20}{100}$ rupee = 0.20 rupee

d) 50 rupees 90 paise = 50 + 90 paise = $50 + \frac{90}{100} = 50 + 0.90 = 50.90$ rupees

e) 725 paise = $\frac{725}{100}$ rupees = 7.25 rupees

2. Express as metres using decimals.

a) 15 cm

b) 6 cm

c) 2 m 45 cm

d) 9 m 7 cm

e) 419 cm

Answer;

We know that 100 cm = 1 m

Therefore, $1 \text{ cm} = \frac{1}{100} \text{ m} = 0.01 \text{ m}$

a) $15 \text{ cm} = \frac{15}{100} \text{ m} = 0.15 \text{ m}$

b) $6 \text{ cm} = \frac{6}{100} \text{ m} = 0.06 \text{ m}$

c) $2 \text{ m } 45 \text{ cm} = 2 \text{ m} + 45 \text{ cm} = 2 \text{ m} + \frac{45}{100} \text{ m} = 2 + 0.45 \text{ m} = 2.45 \text{ m}$

d) $9 \text{ m } 7 \text{ cm} = 9 \text{ m} + 7 \text{ cm} = 9 \text{ m} + \frac{7}{100} \text{ m} = 9 \text{ m} + 0.07 \text{ m} = 9.07 \text{ m}$

e) $419 \text{ cm} = \frac{419}{100} \text{ m} = 4.19 \text{ m}$

3. Express as cm using decimals.

a) 5 mm

b) 60 mm

c) 164 mm

d) 9 cm 8 mm

e) 93 mm

Answer:

We know that $10 \text{ mm} = 1 \text{ cm}$

Therefore, $1 \text{ mm} = \frac{1}{10} \text{ cm} = 0.1 \text{ cm}$

a) $5 \text{ mm} = \frac{5}{10} \text{ cm} = 0.5 \text{ cm}$

b) $60 \text{ mm} = \frac{60}{10} \text{ cm} = 6 \text{ cm}$

c) $164 \text{ mm} = \frac{164}{10} \text{ cm} = 1.64 \text{ cm}$

d) $9 \text{ cm } 8 \text{ mm} = 9 \text{ cm} + 8 \text{ mm} = 9 \text{ cm} + \frac{8}{10} \text{ cm} = 9 \text{ cm} + 0.8 \text{ cm} = 9.8 \text{ cm}$

e) $93 \text{ mm} = \frac{93}{10} \text{ cm} = 9.3 \text{ cm}$

4. Express as km using decimals.

a) 8 m

b) 88 m

c) 8888 m

d) 70 km 5 m

Answer:

We know that $1000 \text{ m} = 1 \text{ km}$

Therefore, $1 \text{ m} = \frac{1}{1000} \text{ km} = 0.001 \text{ km}$

a) $8 \text{ m} = \frac{8}{1000} \text{ km} = 0.008 \text{ km}$

b) $88 \text{ m} = \frac{88}{1000} \text{ km} = 0.088 \text{ km}$

c) $8888 \text{ m} = \frac{8888}{1000} = 8.888 \text{ km}$

d) $70 \text{ km } 5 \text{ m} = 70 \text{ km} + 5 \text{ m} = 70 \text{ km} + \frac{5}{1000} \text{ km} = 70 \text{ km} + 0.005 \text{ km} = 70.005 \text{ km}$

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

Answer:

We know that $1000\text{g} = 1 \text{ kg}$

Therefore, $1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$

a) $2 \text{ g} = \frac{2}{1000} \text{ kg} = 0.002 \text{ kg}$

b) $100 \text{ g} = \frac{100}{1000} \text{ kg} = 0.100 \text{ kg}$

c) $3750 \text{ g} = \frac{3750}{1000} \text{ kg} = 3.750 \text{ kg}$

d) $5 \text{ kg } 8 \text{ g} = 5 \text{ kg} + 8 \text{ g} = 5 \text{ kg} + \frac{8}{1000} \text{ kg} = 5 \text{ kg} + 0.008 \text{ kg} = 5.008 \text{ kg}$

e) $26 \text{ kg } 50 \text{ g} = 26 \text{ kg} + 50 \text{ g} = 26 \text{ kg} + \frac{50}{1000} \text{ kg} = 26 \text{ kg} + 0.050 \text{ kg} = 26.050 \text{ kg}$

Addition of Numbers with Decimals

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) $280.69 + 25.2 + 38$

Answer:

a) According to the place value table, we want to write the numbers

$$\begin{array}{r} 0.007 + \\ 8.500 \\ 30.080 \\ \hline 38.587 \end{array}$$

b) 29.432

c) 27.63

d) 38.355

e) 13.175

f) 343.89

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

Answer:

Money spent by Rashid for Maths book = 35.75

Money spent by Rashid for Science book = 32.60

Total amount spent by Rashid = $35.75 + 32.60 = 68.35$ rupees

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

Answer:

Amount given to Radhika by her mother = 10.50 rupees

Amount given to Radhika by her father = 15.80 rupees

Total amount given to Radhika by her parents = $10.50 + 15.80 = 26.30$ rupees

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.

Answer:

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 her = $3.20 + 2.05 = 5.25$ 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?

Answer:

Distance travelled in the morning = 2 km 35 m = 2.035 km

Distance travelled in the evening = 1 km 7 m = 1.007 km

Total distance travelled = $2.035 + 1.007 = 3.042$ 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?

Answer:

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

Distance between her residence and school = $15.268 + 7.007 + 0.500 = 22.775$ 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.

Answer:

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 of his purchases = 5.400 + 2.020 + 10.850 = 18.270 kg

Subtraction of Decimals

EXERCISE 8.6

1. Subtract:

a) Rs 18.25 from Rs 20.75

b) 202.54 m from 250 m

c) Rs 5.36 from Rs 8.40

d) 2.051 km from 5.206 km

e) 0.314 kg from 2.107 kg

Answer:

a) $20.75 - 18.25 = 2.50$ rupees

b) $250 - 202.54 = 47.46$ m

c) $8.40 - 5.36 = 3.04$ rupees

d) $5.206 - 2.051 = 3.155$ km

e) $2.107 - 0.314 = 1.793$ kg

2. Find the value of:

a) $9.756 - 6.28$

b) $21.05 - 15.27$

c) $18.5 - 6.79$

d) $11.6 - 9.847$

Answer:

a) 3.476

b) 5.78

c) 11.71

d) 1.753

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

Answer:

The price of a book = 35.65 rupees

Total amount given to the shopkeeper = 50 rupees

The amount he got back = $50 - 35.65 = 14.35$ rupees.

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

Answer:

Total amount of money Rani had = 18.50

The price of one ice-cream = 11.75

Money left with her = $18.50 - 11.75 = \text{Rs.}6.75$

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?

Answer:

Total length of cloth = 20 m 5 cm = 20.05 m

Length of cloth used for making a curtain = 4 m 50 cm = 4.50 m

Length of cloth left with her = $20.05 - 4.50 = 15.55$ m

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

Answer:

Total distance travelled = 20 km 50 m = 20.050 km

Distance travelled by bus = 10 km 200 m = 10.200 km

Distance travelled by auto = $20.050 - 10.200 = 9.850$ km

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?

Answer:

Total weight of vegetables = 10 kg

Weight of onions = 3 kg 500 g = 3.500 kg

Weight of tomatoes = 2 kg 75 g = 2.075 kg

Total weight of onions and tomatoes = 3.500 + 2.075 = 5.575 kg

Weight of potatoes = 10 – 5.575 = 4.425 kg