

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 10

CHAPTER NAME : DECIMAL FRACTIONS

SUB-TOPIC : DECIMAL FRACTIONS, PLACE VALUE CHART, EXPANDED

FORM , EXERCISE 10 A Q.NO.1 TO 4

CHANGING YOUR TOMORROW

CH. 10 DECIMAL FRACTION

A decimal fraction
is one whose
denominator is 10
or multiples of 10.

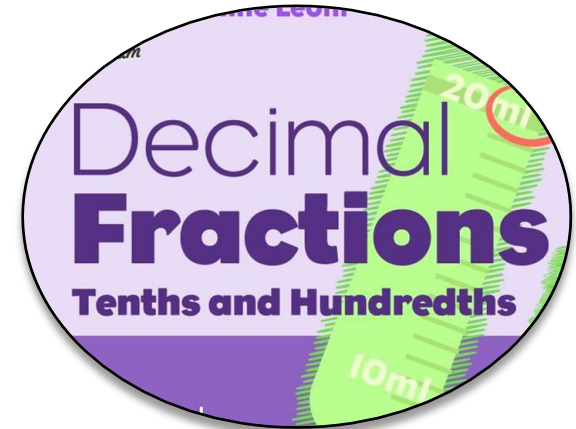
$$\frac{3}{10}$$

$$\frac{73}{100}$$

$$\frac{29}{100}$$

$$\frac{641}{10}$$

$$\frac{127}{1000}$$



CH. 10 DECIMAL FRACTION

EXAMPLES:

→ $\frac{641}{10}$

= 64.1

= Sixty-four point one

→ $\frac{127}{1000}$

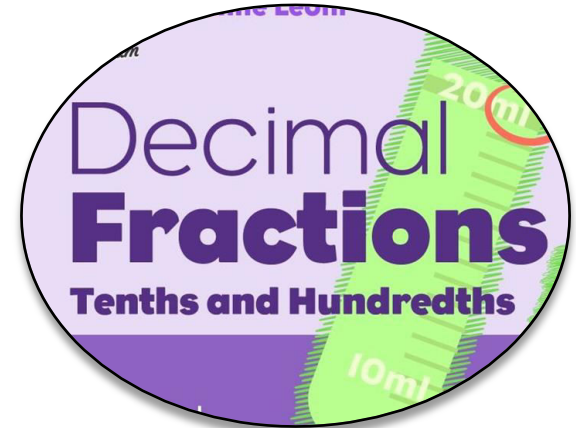
= 0.127

= Zero point one two seven

→ 12 $\frac{71}{100}$

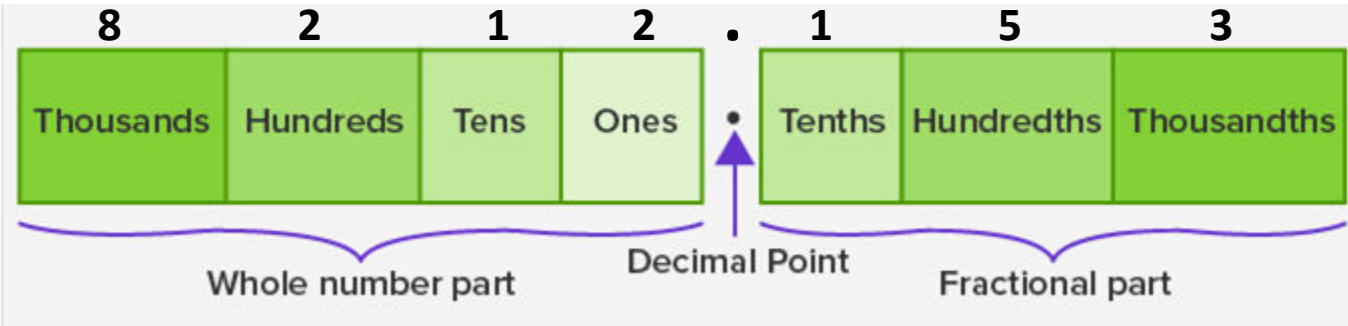
= 12.71

= Twelve point seven one



7.29
 "seven point two nine"
 63.174
 "sixty-three point one seven four"

PLACE VALUE CHART



Decimals

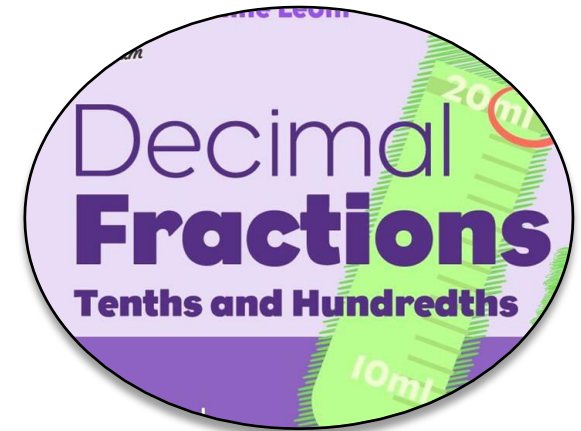


Expanded Form with Decimals



T H O U S A N D S	H U N D R E D S	T E N S	O N E S	D E C I M A L	T E N T H S	H U N D R E D T H S	T H O U S A N D T H S
	3	1	7	.	2	9	

$$300 + 10 + 7 + 0.2 + 0.09$$



EXPANDED FORM

Examples:

487. 123 = Four hundreds + 8 tens + 7 ones + one tenths + 2 hundredths + 3 thousandths

$$= 400 + 80 + 7 + \frac{1}{10} + \frac{2}{100} + \frac{3}{1000}$$

$$= 400 + 80 + 7 + 0.1 + 0.02 + 0.003$$



EXERCISE 10 [A]

1. WRITE THE DECIMAL FRACTIONS IN WORDS.

- a. $0.9 =$ Zero point nine
- b. $0.07 =$ Zero point zero seven
- c. $0.083 =$ Zero point zero eight three
- d. $0.014 =$ Point zero one four



2. WRITE THE FOLLOWING IN FRACTION AND DECIMAL FORM



a. Two tenths =	$\frac{2}{10}$	0.2
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b. Four and five tenths =	$4\frac{5}{10}$	4.5
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c. Five - hundredths =	$\frac{5}{100}$	0.05
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d. Eleven and three hundredths =	$11\frac{3}{100}$	11.03
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EXERCISE 10 [A]

3. EXPRESS THE FOLLOWING IN DECIMAL FRACTIONS

a. $\frac{12}{100} = 0.12$

b. $\frac{37}{100} = 0.37$

c. $\frac{1}{1000} = 0.001$

d. $\frac{35}{1000} = 0.035$



EXERCISE 10 [A]

4. WRITE THE FOLLOWING IN FRACTIONS OR IN MIXED NUMBERS.

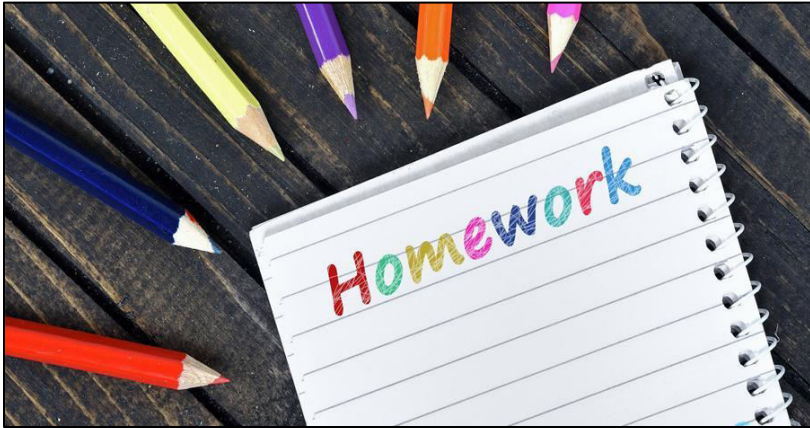
$$\text{a. } 0.45 = \frac{45}{100} = \frac{9}{20}$$

$$\text{b. } 0.124 = \frac{124}{1000} = \frac{31}{250}$$

$$\text{c. } 0.049 = \frac{49}{1000} = \frac{49}{1000}$$

$$\text{d. } 0.055 = \frac{55}{1000} = \frac{11}{200}$$





- Do exercise 10 A q.no. 5 and 6 bit a, b and c in the notebook.



Learning Outcomes

Students are able to solve various problems related to decimal fractions.

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CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 10

CHAPTER NAME : DECIMAL FRACTIONS

SUB-TOPIC : TYPES OF DECIMAL FRACTIONS, COMPARISON,

EXERCISE 10 A Q.NO.7 AND 8

CHANGING YOUR TOMORROW

TYPES OF DECIMAL FRACTIONS

1 LIKE DECIMAL

If two decimal fractions have equal number of decimal places.

- 0.45
- 123.35
- 54.09

2 UNLIKE DECIMAL

If two decimal fractions have unequal number of decimal places.

- 0.45
- 123.325
- 54.9



TYPES OF DECIMAL FRACTIONS

3 EQUIVALENT DECIMAL

When the decimal fractions are equal in value.

<input type="checkbox"/> 0.4	=	0.400	=	0.40
<input type="checkbox"/> 12.2	=	12.20	=	12.2000
<input type="checkbox"/> 54.09	=	54.090	=	54.0900

Adding any no. of 0 at the extreme right in the decimal part doesn't change the value



EXAMPLES:

$$0.82 < 0.85$$

$$48.63 > 48.62$$

$$5.20 < 5.25$$

EXERCISE 10 A

7. Write $>$ or $<$

- | | | |
|----------|-----|-------|
| a. 0.46 | $<$ | 0.5 |
| b. 0.008 | $<$ | 0.1 |
| c. 0.76 | $>$ | 0.09 |
| d. 0.48 | $<$ | 0.7 |
| e. 0.125 | $<$ | 0.307 |



EXERCISE 10 A

8. Arrange the following in ascending order using **>** or **<**

a. 0.6 , 0.43 , 0.7

ans. **0.43 < 0.6 < 0.7**

b. 0.014 , 0.8 , 0.006

ans. **0.006 < 0.014 < 0.8**

c. 0.123 , 0.321 , 0.103

ans. **0.103 < 0.123 < 0.321**



HW.

EXERCISE 10 A

9. Arrange the following in Descending order using $>$ or $<$

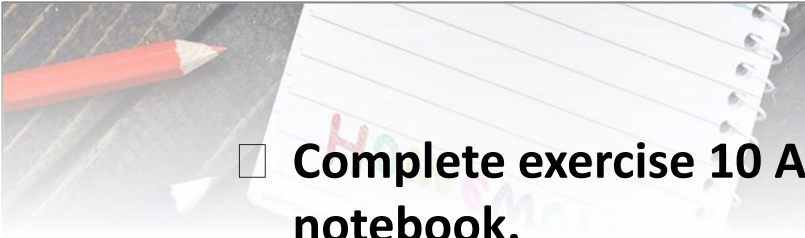
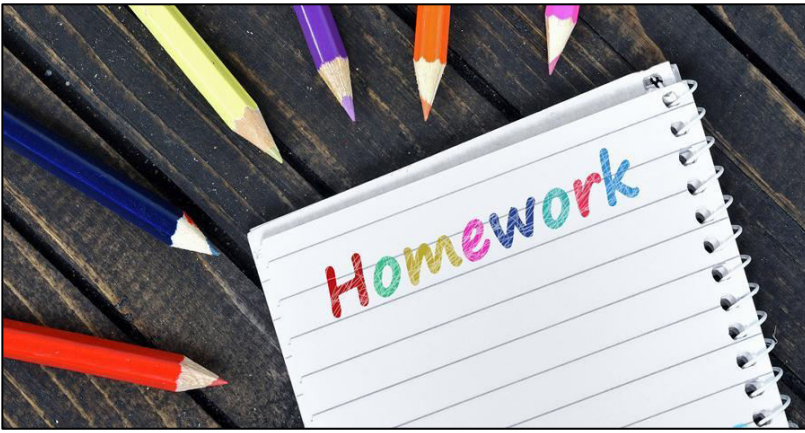
a. 0.76 , 0.62 , 0.67

ans. **0.76 > 0.67 > 0.62**

e. 1.16 , 6.11 , 1.61

ans. **6.11 > 1.61 > 1.16**





- Complete exercise 10 A q.no. 9 bit a and e in the notebook.



Learning Outcomes

Students are able to compare and contrast between decimal fractions.

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CHAPTER NUMBER: 10

CHAPTER NAME : DECIMAL FRACTIONS

**SUB-TOPIC : CONVERSION OF DECIMAL FRACTIONS INTO COMMON
FRACTION**

EXERCISE 10 A Q.NO. 11

CHANGING YOUR TOMORROW

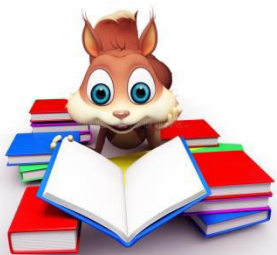
CONVERSION OF DECIMAL FRACTIONS INTO COMMON FRACTION

EXAMPLE: 1

$$\text{a. } 2.04 = \frac{204}{100} \xrightarrow{\text{Lowest term}} = \frac{51}{25} = 2 \frac{1}{25}$$

OR

$$\text{b. } 2.04 = 2 \frac{4}{100} = 2 \frac{1}{25}$$



CONVERSION OF DECIMAL FRACTIONS INTO COMMON FRACTION

EXAMPLE: 2

$$\text{a. } 14.235 = \frac{14235}{1000} \xrightarrow{\text{Lowest term}} = \frac{2847}{200} = 14 \frac{47}{200}$$

OR

$$\text{b. } 14.235 = 14 + \frac{235}{1000} = 14 \frac{47}{200}$$



EXERCISE 10 -A

11. Convert the decimal fractions into common fraction

$$\text{a. } 0.02 = \frac{2}{100} = \frac{1}{50}$$

$$\text{b. } 0.175 = \frac{175}{1000} = \frac{7}{40}$$

$$\text{c. } 7.60 = 7 + \frac{60}{100} = 7 \frac{3}{5}$$

$$\text{d. } 7.625 = 7 + \frac{625}{1000} = 7 + \frac{25}{40} = 7 \frac{5}{8}$$



EXERCISE 10 -A

11. Convert the decimal fractions into common fraction

$$\text{e. } 6.125 = 6 + \frac{125}{1000} = 6 \frac{1}{8}$$

$$\text{f. } 3.75 = 3 + \frac{75}{100} = 3 \frac{3}{4}$$

$$\text{g. } 9.55 = 9 + \frac{55}{100} = 9 \frac{11}{20}$$





Students are able to convert decimal to fractions.

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CHAPTER NUMBER: 10

CHAPTER NAME : DECIMAL FRACTIONS

SUB-TOPIC : CONVERSION OF FRACTIONS INTO DECIMAL

EXERCISE 10 A Q.NO. 10

CHANGING YOUR TOMORROW

CONVERSION OF FRACTIONS INTO DECIMAL

EXAMPLE: 1

$$\text{a. } \frac{3}{8} = \frac{3 \times 125}{8 \times 125} = \frac{375}{1000} = 0.375$$

Change the denominator to a multiple of 10.

Then convert the fraction to decimal.



CONVERSION OF FRACTIONS INTO DECIMAL

OR

$$\begin{array}{r} .375 \\ 8 \overline{) 3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

1. Divide the numerator by the denominator.
2. When **DIVIDEND** is smaller , put a decimal **point** in the dividend and quotient followed by **zero** to the **right of the decimal point**.
3. Keep dividing till the remainder is **0**

$$\frac{3}{8} = .375$$



CONVERSION OF FRACTIONS INTO DECIMAL

EXAMPLE: 2

$$\text{a. } \frac{23}{4} = \frac{23 \times 25}{4 \times 25} = \frac{575}{100} = 5.75$$

OR

$$\begin{array}{r} 5.75 \\ 4 \overline{) 23.00} \\ \underline{20} \\ 30 \\ \underline{28} \\ 20 \\ \underline{20} \\ 0 \end{array}$$



EXERCISE 10 –A

10. Convert the common fractions into decimal fractions

$$\text{a } \frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100} = 0.75$$

$$\text{c } 15 \frac{1}{4} = \frac{61}{4} = \frac{61 \times 25}{4 \times 25} = \frac{1525}{100} = 15.25$$

$$\text{d. } 20 \frac{3}{5} = \frac{103}{5} = \frac{103 \times 2}{5 \times 2} = \frac{206}{10} = 20.6$$



EXERCISE 10 -A

10. Convert the common fractions into decimal fractions

e. $17 \frac{3}{16} = \frac{275}{16}$

$$\begin{array}{r} 17.1875 \\ 16 \overline{) 275.0000} \\ \underline{16} \\ 115 \\ \underline{112} \\ 30 \\ \underline{16} \\ 140 \\ \underline{128} \\ 120 \\ \underline{112} \\ 80 \\ \underline{80} \\ 0 \end{array}$$

$$17 \frac{3}{16} = 17.1875$$

f. $8 \frac{21}{40} = \frac{341}{40} = \frac{341 \times 25}{40 \times 25} = \frac{8525}{1000} = 8.525$



EXERCISE 10 -A

10. Convert the common fractions into decimal fractions

$$g. \quad 58 \frac{5}{64} = \frac{3717}{64}$$

$$58 \frac{5}{64} = 58.078125$$

$$\begin{array}{r} 58.078125 \\ 64 \overline{) 3717.000000} \\ \underline{320} \\ 517 \\ \underline{512} \\ 50 \\ \underline{0} \\ 500 \\ \underline{448} \\ 520 \\ \underline{512} \\ 80 \\ \underline{64} \\ 160 \\ \underline{128} \\ 320 \\ \underline{320} \\ 0 \end{array}$$





Students are able to convert Fractions to decimal .

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