

Tender Heart High School; Sec- 33B, Chandigarh

Class - VI

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Subject - Mathematics

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Ch-5 Decimal Fractions

The fractions in which the denominators are 10, 100, 1000 etc, are known as decimal fractions.

whole number $\leftarrow 2.4 \rightarrow$ decimal part
part $\downarrow$ decimal point

Ex 5A

1. Write each of the following decimals in figures:-

(i) Seventy three point eight four - 73.84

(ii) Nineteen point six one eight - 19.618

2. Write the place value of each digit in each of the following decimals:

(i)

46.38

↳ 8/100

↳ 3/10

↳ 6

↳ 40

(ii) 132.405

Diagram illustrating the place value of digits in the decimal number 132.405:

- 1 is in the hundreds place.
- 3 is in the tens place.
- 2 is in the ones place.
- 4 is in the tenths place.
- 0 is in the hundredths place.
- 5 is in the thousandths place.

Arrows indicate the relationship between the digits and their respective place values:

- 1 → 100
- 3 → 30
- 2 → 2
- 4 → $\frac{4}{10}$
- 0 → $\frac{0}{100}$
- 5 → $\frac{5}{1000}$

3. Write each of the following decimals in expanded form:-

(i) $53.48 \rightarrow 50 + 3 + \frac{4}{10} + \frac{8}{100}$

(ii) $8.065 \rightarrow 8 + \frac{5}{1000}$

Q4. Write each of the following as a decimal number:

$$(i) 60 + 8 + \frac{4}{10} + \frac{5}{100} = 68.45$$

$$(ii) 2000 + 80 + \frac{4}{100} + \frac{8}{1000} = 2080.048$$

Q5. Write each of the following numeral as decimal:-

$$(i) 2\frac{7}{10} = 2 + \frac{7}{10} = 2 + 0.7 = 2.7$$

$$(ii) 6\frac{15}{100} = 6 + \frac{15}{100} = 6 + 0.15 = 6.15$$

$$(iii) 10\frac{8}{1000} = 10 + 0.008 = 10.008$$

Exercise 5B

1. Convert each of the sets of unlike decimals into like decimals

$$(i) 9.4, 65.83, 0.065 \rightarrow 9.400, 65.830, 0.065$$

$$(ii) 2.8, 16.85, 64.056, 143.625 \rightarrow 2.800, 16.850, 64.056, 143.625$$

2. Arrange the following decimals in ascending order.

$$(i) 3.6, 4.2, 3.57, 4.18, 3.06, 4.08$$

$$3.60, 4.20, 3.57, 4.18, 3.06, 4.08$$

$$3.06 < 3.57 < 3.60 < 4.08 < 4.18 < 4.2$$

$$(ii) 0.7, 0.007, 0.07, 7.7, 7.07, 0.77$$

$$0.700, 0.007, 0.070, 7.700, 7.070, 0.770$$

$$0.007 < 0.070 < 0.700 < 0.770 < 7.070 < 7.700$$

Arrange the following decimals in descending order:-

(i) 6.6, 0.66, 0.6, 0.066, 6.66
 6.600, 0.060, 0.600, 0.006, 6.660
 $6.660 > 6.600 > 0.600 > 0.060 > 0.006$

(ii) 7.35, 3.75, 5.3, 3.57, 5.37, 5.75
 7.35, 3.75, 5.30, 3.57, 5.37, 5.75
 $7.35 > 5.75 > 5.37 > 5.30 > 3.75 > 3.57$

Ex 5C

1. Convert each of the following decimals into a fraction with lowest term:

(i) $0.8 = \frac{8 \div 2}{10 \div 2} = \frac{4}{5}$

(ii) $0.45 = \frac{45 \div 5}{100 \div 5} = \frac{9}{20}$

(iii) $8.125 = \frac{8125 \div 5}{1000 \div 5} = \frac{1625 \div 5}{200 \div 5} = \frac{325 \div 5}{40 \div 5} = \frac{65}{8} = 8\frac{1}{8}$

2. Convert each of the following fractions into a decimal.

(i) $\frac{9}{10} = 0.9$

(ii) $\frac{427}{10} = 42.7$

(iii) $\frac{1423}{100} = 14.23$

3. Convert each of the following fractions into a decimal:

(i) $\frac{3}{20} \times \frac{5}{5} = \frac{15}{100} = 0.15$

(ii) $\frac{9}{50} \times \frac{2}{2} = \frac{18}{100} = 0.18$

$$\text{iii)} \quad \frac{1}{4} \times \frac{25}{25} = \frac{25}{100} = 0.25$$

$$\text{iv)} \quad \frac{231}{250} \times \frac{4}{4} = \frac{924}{1000} = 0.924$$

4. Convert each of the following fractions into a decimal:-

$$\text{(i)} \quad 5\frac{3}{4} = \frac{23}{4} \times \frac{25}{25} = \frac{575}{100} = 5.75$$

$$\text{(ii)} \quad 12\frac{4}{5} = \frac{64}{5} \times \frac{20}{20} = \frac{1280}{100} = 12.80$$

$$\text{(iii)} \quad 2\frac{4}{25} = \frac{54}{25} \times \frac{4}{4} = \frac{216}{100} = 2.16$$

Exercise 5D

1. Add:

$$\text{(i)} \quad 27.5, 8.93, 0.759, 9.6$$

$$27.500, 8.930, 0.759, 9.600$$

$$\begin{array}{r} 27.500 \\ + 8.930 \\ + 0.759 \\ + 9.600 \\ \hline 46.789 \end{array}$$

$$\text{(ii)} \quad 325.700$$

$$698.079$$

$$000.870$$

$$236.680$$

$$\hline 661.329$$

Q2 Find the difference.

(i) $17.05 - 9.78$

$$\begin{array}{r} 17.05 \\ - 9.78 \\ \hline 07.27 \end{array}$$

(ii) $1.5 - 0.703$

$$\begin{array}{r} 1.500 \\ - 0.703 \\ \hline 0.797 \end{array}$$

Q3. Simplify:

(i) $74.8 + 68.79 - 47.609 - 7.08$

$$= 143.59 - 54.689$$

$$= 88.901$$

(ii) $203.5 - 43.76 - 9.89 - 13.086$

$$= 203.5 - 43.76 - 22.976$$

$$= 203.5 - 66.736$$

$$= 136.764 \text{ Ans}$$

Q4. What is to be added to 73.6 to get 91.03?

Soln:- Required number = $91.03 - 73.6$

$$= 17.43$$

Q5. By how much should 32.987 be increased to get 60?

Soln:- Required number = $60 - 32.987$

$$= 27.013 \text{ Ans.}$$

Q6. The sum of two numbers is 34.02. If one of the numbers is 16.268, find the other.

Soln:- The sum of two numbers = 34.02

$$\text{one number} = 16.268$$

$$\text{other number} = 34.02 - 16.268$$

$$= 17.752 \text{ Ans}$$