13 Money

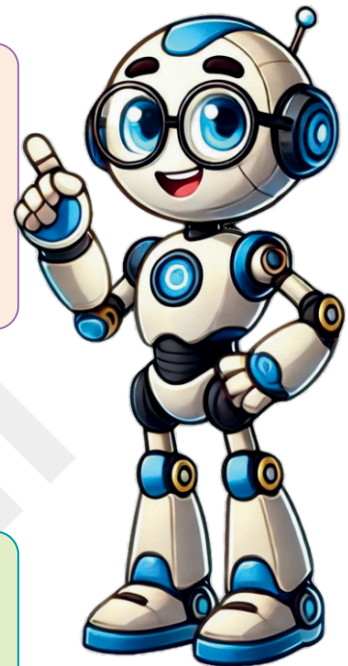**We'll cover the following key points:**

→ Introduction
→ Conversion
→ Addition and Subtraction of Money
→ Multiplication and Division of Money

Do you Remember fundamental concept in previous class:

In class 3ʳᵈ we learnt

→ How to Write Rupees and Paise Jointly?
→ Conversion of Money
→ Multiplication of Rupees and Paise by a Number

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Learning Outcomes

By the end of this chapter, students will be able to:

- Identify and understand different coins and notes used in money (e.g., 1 rupee, 5 rupees, 10 rupees, etc.).
- Add and subtract amounts of money (e.g., 20 rupees + 15 rupees = 35 rupees).
- Convert rupees to paise and vice versa (e.g., 1 rupee = 100 paise).
- Understand the concept of change and how to calculate it (e.g., if you pay 50 rupees for an item costing 35 rupees, the change is 15 rupees).
- Solve simple word problems involving money (e.g., buying items and calculating total cost or change).
- Use money to make different amounts with coins and notes (e.g., make 20 rupees using different combinations of coins and notes).
- Compare different amounts of money to know which is more or less (e.g., 100 rupees is more than 50 rupees).

Mona is shopping for toys. She has notes and coins with her in her purse. She has notes of ₹20, ₹10 and coins of ₹5 and ₹2. Help Mona find out how many of each of these notes or coins she must give to the shopkeeper to buy each of these toys.
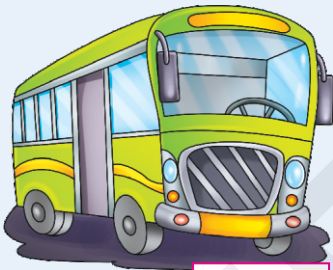
₹35

₹ ☐ + ₹ ☐ + ₹ ☐

₹40

₹ ☐ + ₹ ☐ + ₹ ☐ + ₹ ☐

₹27

₹ ☐ + ₹ ☐ + ₹ ☐

Introduction

Indian money is based on decimal system of numeration. The unit of money is **rupee**. There are two forms of currency in India: **Rupees** and **Paise**. These forms are available in **notes** and **coins**. There are 1 rupee, 2 rupees, 5 rupees and 10 rupees coins and 1 rupee, 2 rupees, 5 rupees, 10 rupees, 20 rupees, 50 rupees, 100 rupees, 200 rupees, 500 rupees and 2000 rupees notes are available in the market.

1 rupee = 100 paise.

Take a Task

Watch Remedial
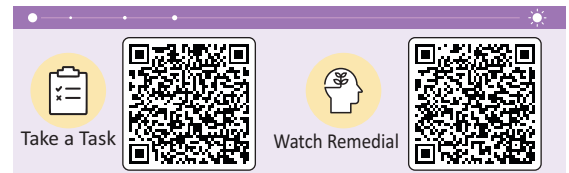
Conversion

We place rupees (whole number part) to the left of the decimal point and paise (the decimal part) to its right.

Paise	45975
Rupees	459.75

Place a decimal (or point) after two digits from the right to convert paise into rupees.

We have learnt to convert rupees into paise and paise into rupees. Now, let us extend the process of conversion by considering the following examples :

Example 1 : Convert the following rupees using decimals :

(i) 75 P   **(ii) 435 P**   **(iii) ₹2 and 58 P**   **(iv) ₹18 and 75 P**

Solution : (i) $75\,P = ₹\dfrac{75}{100} = ₹0.75$

(ii) $435\,P = ₹\dfrac{435}{100} = ₹4.35$

(iii) $₹2\text{ and }58\,P = ₹2 + 58\,P = ₹2 + ₹\dfrac{58}{100} = ₹2 + ₹0.58 = ₹2.58$

(iv) $₹18\text{ and }75\,P = ₹18 + 75\,P = ₹18 + ₹\dfrac{75}{100} = ₹18 + ₹0.75 = ₹18.75$

Example 2 : Convert the following into paise using decimals :

(i) ₹0.75   **(ii) ₹83.52**   **(iii) ₹680.05**

Solution : (I) $₹0.75 = 0.75 \times 100 \text{ paise} = 75\,P$

(ii) $₹83.52 = 83.52 \times 100\,P = 8352\,P$

(iii) $₹680.05 = 680.05 \times 100\,P = 68005\,P$

1.   **Convert the following in rupees using decimals :**

   (a) 75 P   (b) 68 P   (c) 55 P   (d) ₹2, 28 P   (e) ₹2, 80 P

   (f) 95 P   (g) ₹13, 75 P   (h) ₹5, 05 P   (i) ₹64, 70 P

2.   **Convert the following in paise using decimals :**

   (a) ₹0. 63   (b) ₹0.26   (c) ₹0.75   (d) ₹18. 30

   (e) ₹28.45   (f) ₹33. 85   (g) ₹61. 23   (h) ₹65.55

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Addition and Subtraction of Money

To solve problems on addition and subtraction of money, let us follow the method given below :

Method for Addition and Subtraction of Money

Working Rules

Step 1.   Express the amounts of money in figures, using the decimal notation.

Step 2.   Arrange the given amounts (in figures) in a column such that all the decimal points fall in one column.

Step 3.   Add or subtract the amounts as general (ordinary) numbers.

Step 4.   Put the decimal point in the decimal points column after finding the sum or difference.

Example 3 :   Convert 52 rupees 75 paise, 478 rupees 50 paise and 65 paise into decimals and add.

Solution :   52 rupees 75 paise = ₹52 + ₹$\dfrac{75}{100}$

= ₹52 + ₹0.75 = ₹52. 75

478 rupees 50 paise = ₹478 + ₹$\dfrac{50}{100}$

= ₹478 + ₹0.50 = ₹478.50

65 paise = ₹$\dfrac{65}{100}$ = ₹0.65

Working

$$\begin{array}{r} \overset{1\ \ 1\ \ 1\ \ \ \ 1}{52} . \ 75 \\ 478 . \ 50 \\ + 0 . \ 65 \\ \hline 531 . \ 90 \end{array}$$

Now, the sum of these amount of money is given by

₹52.75 + ₹478.50 + ₹0.65 = ₹531.90

Hence, the required sum is ₹531. 90 or 531 rupees 90 paise.

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Example 4: Convert into decimals and subtract the following :

48 rupees 80 paise from 300 rupees 5 paise

Solution: 48 rupees 80 paise $= ₹48 + ₹\dfrac{80}{100} = ₹48 + ₹0.80 = ₹48.80$

300 rupees 5 paise $= ₹300 + ₹\dfrac{5}{100}$

$= ₹300 + ₹0.05 = ₹300.05$

Now, the required difference is given by

$$₹300.05 - ₹48.80 = ₹251.25$$

Hence, the required difference is ₹251.25 or 251 rupees 25 paise.

$$\begin{array}{r} \overset{2}{\cancel{3}}\,\overset{9}{\cancel{0}}\,\overset{9}{\cancel{0}}\,\overset{10}{ } \\ 300\,.\,05 \\ -\;48\,.\,80 \\ \hline 251\,.\,25 \end{array}$$

Example 5 : If a 100-rupees note and a 50-rupees note were given to pay the bill, find the amount received in change.

Bill	
Bread:	₹10 . 50
Sauce :	₹55 . 75
Eggs :	₹42 . 25
Talcum Powder :	₹23 . 00

Solution:

Total Bill	
Bread:	₹10 . 50
Sauce :	₹55 . 75
Eggs :	₹42 . 25
Talcum Powder :	₹23 . 00
Total	₹131 . 50

Paid Amount

₹ 100 . 00

₹   50 . 00

Total ₹150.00

Amount received in change :

₹ Paise
150.00
− 131.50
18.50

Hence, the amount received is ₹18.50 or rupees 50 paise.

Example 6: Your father went to the market for shopping with ₹500. He purchased fruits worth ₹112.65, vegetables worth ₹179.85, groceries worth ₹195.75 and some toffees worth ₹8.50. How much money was left with him?

Solution:

$$
\begin{aligned}
\text{Money spent on fruits} &= ₹\ 112\ .\ 65 \\
\text{Money spent on vegetables} &= ₹\ 179\ .\ 85 \\
\text{Money spent on groceries} &= ₹\ 195\ .\ 75 \\
\text{Money spent on toffees} &= ₹\ \quad 8\ .\ 50 \\
\hline
\text{Total money spent} &= ₹\ 496\ .\ 75
\end{aligned}
$$

Now, the amount of money left with your father is given by

₹500 – ₹496.75 = ₹3.25

Hence, ₹3.25, i.e. 3 rupees 25 paise were left with your father.

Exercise 13.2

1. **Fill in the blanks :**

   (a) ₹279. 85 + ₹72. 68 + ₹175. 64 = _____

   (b) ₹345.85 + ₹979.08 + ₹275.65 = _____

   (c) ₹710. 95 + ₹5. 78 + ₹379.85 = _____

   (d) ₹861.15 – ₹78.87 = _____

   (e) ₹9120.05 – ₹2568.76 = _____

2. **Change into decimals and add :**

   (a) 172 rupees 5 paise, 18 rupees 56 paise and 8 rupees 78 paise.

   (b) 367 rupees 85 paise, 95 rupees 6 paise and 128 rupees 38 paise.

   (c) 288 rupees 8 paise, 675 rupees 78 paise and 11 rupees 79 paise.

3. Ram babu purchased cloth worth ₹675, a calculator worth ₹368.56 and some dry fruits worth ₹206.75.

   How much money did he spend in all?

4. A cooler costs ₹8156.60 and another cooler costs ₹5084.75.

   What is the difference between their cost prices?

HOTS

One chair costs ₹1068.85 and a table costs ₹2005.75. If a bicycle costs ₹487.05 less than the sum of costs of one chair and table find the cost of the bicycle.

Multiplication and Division of Money

We have already learnt about the decimal notation in money.

Now, we shall learn how to multiply money by a whole number.

Let us follow the method given below to do this.
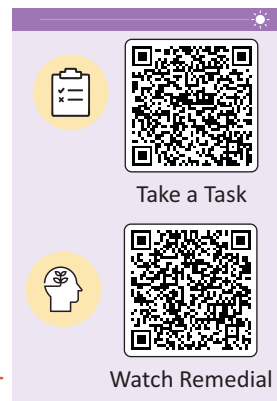
Method for Multiplication of Money

Working Rules

Step 1. Write the given amount of money in figures, i.e. in numeral form.

For example, write 42 rupees 75 paise as ₹42.75

Step 2. Multiply the amount of money by the given whole number as we multiply the usual numbers.

Step 3. Put the decimal point after two digits from the right in the product.

Take a Task

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Example 7: Find the product of the following :

(a) ₹16.25 × 4   (b) ₹457.68 × 15

Solution: (a)
```
  16 . 25
 ×    4
 ─────────
  65 . 00
```
Therefore, ₹16.25 × 4 = ₹65.00

(b) ₹457.68 × 15
```
    4 5 7 6 8
  ×     1 5
  ───────────
    2 2 8 8 4 0
 + 4 5 7 6 8 0
  ───────────
    6 8 6 5 2 0
```
Therefore, ₹457.68 × 15 = ₹6865.20

Note

You may also multiply ₹16.25 by 4 as follows:
```
    1 6 2 5
  ×     4
  ─────────
    6 5 0 0
```
After multiplication, put the decimal point after the second digit from the right in the product, i.e. 65.00

Example 8 : The cost of one bed is ₹16375.75.

What is the cost of 12 such beds?

Solution :

$$\text{Cost of 1 bed} = ₹16375.75$$

$$\text{Cost of 12 such beds} = ₹16375.75 \times 12$$

$$= ₹196509.00$$

Hence, the cost of 12 beds is ₹196509.

Example 9: Divide ₹60.03 by 9.

Solution:

```
9)60.03(6.67
  -54
   60
  -54
   63
  -63
    0
```

Therefore, ₹60.03 ÷ 9 = ₹6.67

Working

```
   1637575
   ×    12
   3275150
+16375750
 19650900
```

Exercise 13.3

Knowledge Application

1. **Multiply :**

   (a) ₹6.42 by 3   (b) ₹67.68 by 8

   (c) ₹384.48 by 25   (d) ₹205. 15 by 20

   (e) ₹202.15 by 20   (f) ₹283.05 by 40

Answer the following questions:

Problem Solving

2. A book costs ₹100.75. What is the cost of 22 such books?

3. If one steel almirah and one dinning table cost ₹8085.45 and ₹7008.05 respectively, find the total cost of 18 almirahs such and 15 such dinning tables.

4. Prepare the bill and make the payment for 3 kg rice for ₹125.45 per kg, 4 kg sugar for ₹135. 45 per kg, 1 kg rajma for ₹72.65 per kg.

5. 2 pairs of shoes cost ₹640.50. Find the cost of each pair.

6. Cost of 6 tablemats is ₹98.70. What is the cost of 1 mat?

7. The cost of 8 fans is ₹8660. Find the cost of one fan.

8. The price of a chair is ₹250.50. What will be the price of 6 such chairs?

Gap Analyzer™

1. Tick (✓) the correct answer:

(a) 91 rupees 2 paise can be written as :

(i) ₹91.2 ☐   (ii) ₹91.02 ☐   (iii) ₹91.002 ☐

(b) On subtracting ₹135.10 from ₹300, we get :

(i) ₹165.10 ☐   (ii) ₹165.90 ☐   (iii) ₹164.90 ☐

(c) Multiplying ₹200.05 by 100, the product is :

(i) ₹2050 ☐   (ii) ₹20005 ☐   (iii) ₹2500 ☐

2. Fill in the blanks:

(a) There are _____ paise in ₹1.   (b) _____ 25 paise coins make ₹1.

(c) There are _____ paise in ₹5.   (d) ₹375 + ₹ _____ = ₹500

(e) ₹286 – ₹ _____ = ₹113

3. Match the following:

Column A	Column B
(a) ₹8, 62 P	(I) ₹125.53
(b) ₹75, 25 P	(ii) ₹8520.25
(c) ₹125, 53 P	(iii) ₹8.62
(d) ₹735, 90 P	(iv) ₹735. 90
(e) ₹8520, 25 P	(v) ₹75.25

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Puzzle

Experiential Learning

How many coins? Answer the following questions:

(a) How many [₹1 coin] make ₹45? _____ .

(b) How many [₹2 coin] make ₹36? _____ .

(c) How many [₹5 coin] makes ₹45? _____ .

(d) How many [₹10 coin] makes ₹450? _____ .

Mental Math

1. What emblem do you see on a hundred rupee note? What is written below it?

2. Which bank is responsible for printing the notes?

3. Who signs the notes?

4. How many language would one find on any Indian rupees note?