

Ways to Multiply and Divide

Chapter 11

Jibran – The Cashier

Jibran is the cashier of King Ahsan. His job is to find out the salary of all the people who work for the king. This chart shows how much salary each person gets in a day.

Person	Salary in a day
Minister	Rs 195
Horse rider	Rs 76
Cook	Rs 65

Jibran wanted to calculate the salary of the cook for the month of January. He wrote-

	60	5
30	60×30 1800	5×30 150
1	60×1 60	5×1 5

Rupees $1800 + 150 + 60 + 5 = \text{Rs } \underline{\hspace{2cm}}$

Jibran's daughter Iram has learnt method to multiply. She wrote this and showed it to Basit, her brother.

Now Basit tried to find the salary of a minister from the month of January. He wanted to multiply 195×31 .

$$\begin{array}{r}
 195 \\
 \times 31 \\
 \hline
 195 \quad (195 \times 1) \\
 + \quad _ _ _ 0 \quad (195 \times 30) \\
 \hline
 \hline
 \end{array}$$

To multiply by 30
I first write a zero
here. Then I only have
to multiply by 3.

Practice Time

1. Use Iram method to multiply these numbers.

a. 32×46

b. 67×46

$$\begin{array}{r}
 32 \\
 \times 46 \\
 \hline
 192 \quad (32 \times 6) \\
 + \quad _ _ _ _ \quad (32 \times 40) \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 67 \\
 \times 46 \\
 \hline
 _ _ _ \quad (67 \times 6) \\
 + 2680 \quad (67 \times _ _) \\
 \hline
 \hline
 \end{array}$$

2. Do these in your notebook using Iram's method.

(a) 47×19

(b) 188×91

(c) 63×57

(d) 225×22

(e) 360×12

(f) 163×42



Jagdeep a Special Cook

- ❖ Jagdeep is a special cook who comes only on party days. Last year he was called for only 28 days. For each day he has to be paid Rs 165. Find out how many money he will get in all.
- ❖ If he is called for all days of the year, how much salary will he get?

165	
× 365	
---	{ 165 × 5 }
---	{ 165 × 60 }
+ 49500	{ 165 × 300 }

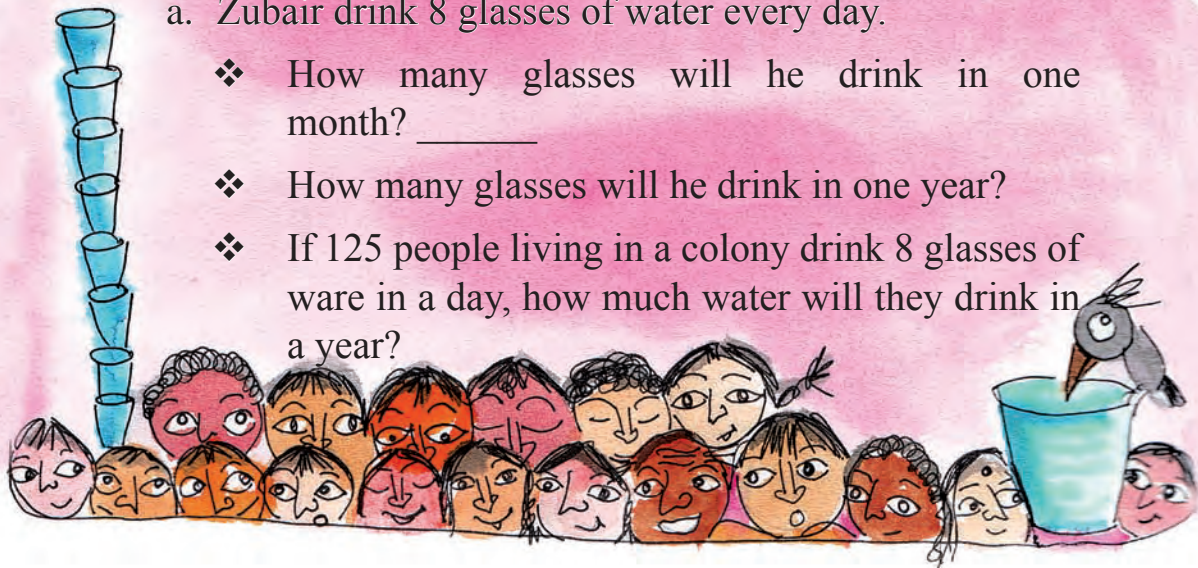


- ❖ Now find the salaries of the minister and horse rider for 1 year.

Years and Years

- a. Zubair drink 8 glasses of water every day.

- ❖ How many glasses will he drink in one month? _____
- ❖ How many glasses will he drink in one year?
- ❖ If 125 people living in a colony drink 8 glasses of water in a day, how much water will they drink in a year?



b. If Iqra's heart beats 72 times in one minute, how many times does it beat in one hour?

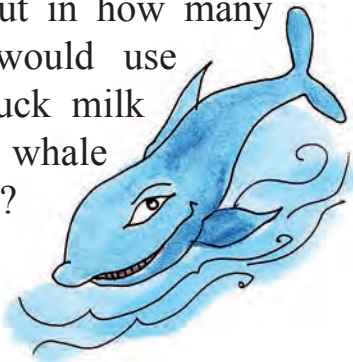
- ❖ Now find out how many times it beats in one day.
- ❖ Count your own heart beats in one day.
- ❖ Count your own heart beats to find out how many times your heart beats in one week.

Guess how many times it beats in one year.



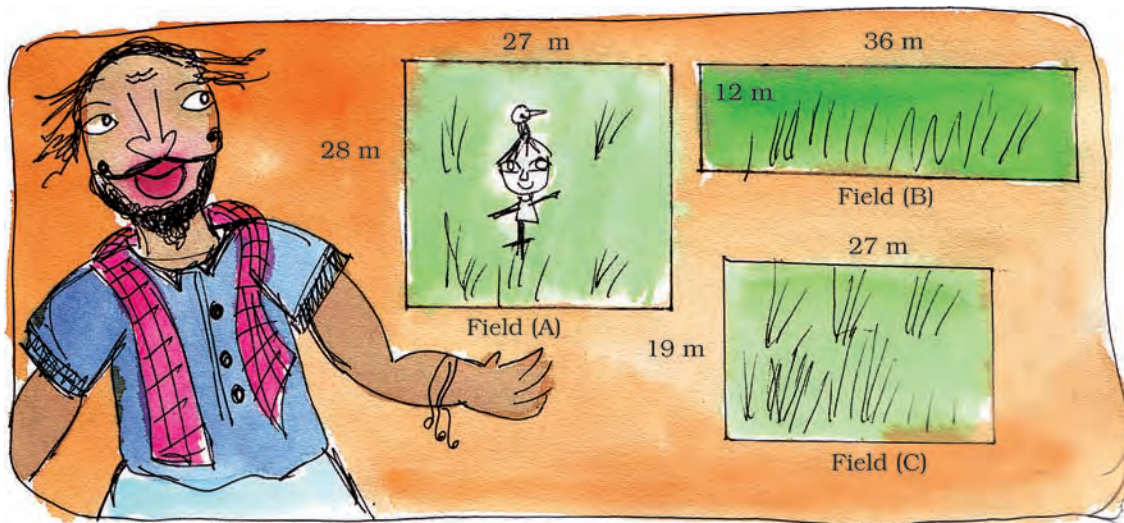
c. A baby elephant drinks around 12 L of milk every day. How much milk will it drink in two years?

d. A baby blue whale drinks around 200 L of milk in one day. Just imagine how much milk that is! Find out in how many days your family would use 22 L milk. How much milk would the baby blue whale drink in eight months?



Muzamil- The Landlord

Muzamil bought three fields.



❖ Find the area of all the three fields.

Field (A) _____ square metre.

Field (B) _____ square metre.

Field (C) _____ square metre.

Hum, did he spend more than a lakh of rupees!

He bought field (A) at the rate of Rs 95 for a square, field (B) at Rs 110 for a square metre and field (C) at Rs 120 for a square metre.

❖ Find the cost of all three fields.



Nusrat and her husband work on Muzamil's farm. The government has said that farm workers should be paid at least Rs 71 for one day's work. But he pays Rs 55 to Nusrat and Rs 58 to her husband.

If Nusrat works for Rs 49 days, how much money does she get? _____

If her husband works for 42 days, how much money does she get? _____

Find the money they earn together. _____



Oh! He does not give them the minimum wage.



And why does he pay less to Nusrat and more to her husband? Discuss



I saw this in the newspaper. Governments of different states have said that farm workers should not be paid less than this salary for a day's work.

State	Salary for one day
Haryana	Rs 135
Rajasthan	Rs 73
Madhya Pradesh	Rs 97
Orissa	Rs 75

The table shows the amounts fixed by four states.

- For farm work which state has fixed the highest amount? Which state has fixed the lowest?
- Farooq is a worker in Rajasthan. If he works for 8 weeks on the farm, how much will he earn?
- Nayeema is a worker in Haryana. If she works for $2\frac{1}{2}$ months on the farm, how much will she earn?
- How much more will a farm worker in Madhya Pradesh get than a worker in Orissa after working for 9 weeks?

Ahmad's Story

Ahmad is a 13 year old boy. His father had taken a loan for farming. But the crops failed. Ahmad's mother has to pay Rs 5000 every month for the loan.

Ahmad started working __ he worked after 17 goats of the village.

He earns Rupee 1 everyday for one goat.

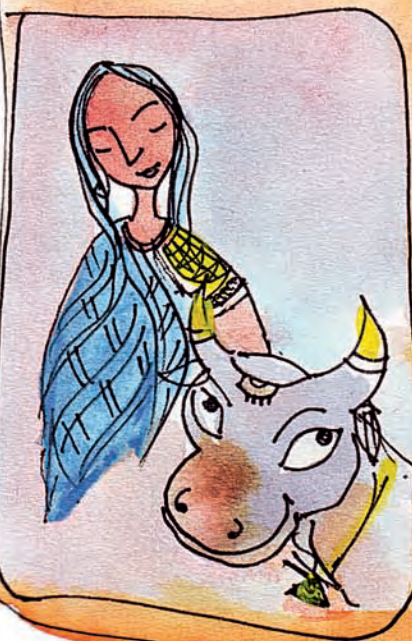
- ❖ How much will he earn in one month?
- ❖ Does he earn enough to help pay the loan every month?
- ❖ How much will he earn in one month?



Zamrooda's story

To help farmers the state Government gave cows. Zamrooda also got a cow. The cost of the cow was Rs 17,500. She has to pay Rs 5,500 and the government spent the rest of the money.

- ❖ How much did the government spend on the cow?
- ❖ If 9 people from her village got cows, how much did the government spend in all?



But Zamrooda was not happy. She had to spend Rs 85 everyday on the cow. She made some money by selling the milk. But still she wanted to sell the cow.

- ❖ If Zamrooda spends Rs 85 a day. Find out how much she will spend in one month.

The cow gives 8 litres of milk everyday. How much will it give in one month?

- ❖ If the milk is sold at Rs 9 per litre, how much money will Zamrooda make in one month?

Find out — how much do you pay for 1 litre of milk?

So the money spent on keeping the cow was Rs _____

Money earned by selling the milk Rs _____

Which is more _____ spent on the cow or money earned from it? How much?

- ❖ Explain why she wanted to sell the cow.



Practice time

- a. Farooq works on a farm. He is paid Rs 98 for one day.



If he works for 52 days, how much will he earn?



- b. Ishfaq took a loan to build his house. He has to pay back Rs 2,750 every month for two years. How much will he pay back in 2 years?



- c. Athar is a milk seller in the city. He sells 13 litres of milk everyday at Rs 23 per litre. How much does he earn?



- d. A farmer sells 1 litre of milk for Rs 11. In one month he sells 210 litres of milk. How much does he earn in a month?

- e. A company sells 1 litre of packed water for Rs 12. A shopkeeper buys 240 litres of packed water. How much does he pay?



Oh God! Water costs more than milk!! In the city people buy water for Rs 12 per litre!



Fun with multiplication

A) Look for the pattern and take this forward

$$\begin{array}{rcl}
 (0 \times 9) & + 1 & = 1 \\
 (1 \times 9) & + 2 & = 2 \\
 (12 \times 9) & + 3 & = 111 \\
 (123 \times 9) & + 4 & = \underline{\hspace{2cm}} \\
 (1234 \times 9) & + 5 & = \underline{\hspace{2cm}} \\
 (12345 \times 9) + 6 & = & \underline{\hspace{2cm}}
 \end{array}$$

B) Each letter a, b, c stands for a number.

$$\begin{array}{r}
 a a a \\
 \times a a a \\
 \hline
 a a a \\
 a a a 0 \\
 a a a 0 0 \\
 \hline
 a b c b a
 \end{array}$$



C) Tricks with your age.

Write your age _____

Multiply it by 7 _____

Again multiply the answer by 13 _____

Multiply again that answer by 11 _____

Now look at your last answer. Can you find your age in that answer?
How many times does your age show in the answer?

Now try this trick with other people.

Sheemu took a loan from a friend to buy a moped for Rs 9,588. She has to pay it back in equal amounts every month for six months.

-
- A colorful illustration of a woman with dark hair and red earrings, wearing a blue and yellow patterned dress. She is riding a red and yellow motorcycle with large, spoked wheels. The motorcycle has a yellow seat and a red body. The woman is smiling and looking towards the right.

$$\begin{array}{r} 9588 \\ - 3000 \\ \hline 6588 \\ - 3000 \\ \hline 3588 \\ - 3000 \\ \hline 588 \\ - 540 \\ \hline 48 \\ - 48 \\ \hline \times \end{array}$$

A cartoon illustration of a young boy with brown skin, black hair, and a friendly smile. He is wearing a red t-shirt and light blue trousers. He is pointing his right index finger towards a large, empty white rectangular box with a blue border. The background is a simple light green wall.

$$\begin{array}{r} 1000 + \\ 6 \overline{) 9588} \\ \underline{-6000} \end{array}$$

A stylized illustration of a bird with a large, white, circular eye and a prominent red beak. The bird's body is dark grey with intricate, swirling patterns on its wings. It is perched on a bright red, dome-shaped object. The background is plain white.

Try to solve these using as few steps as you can.

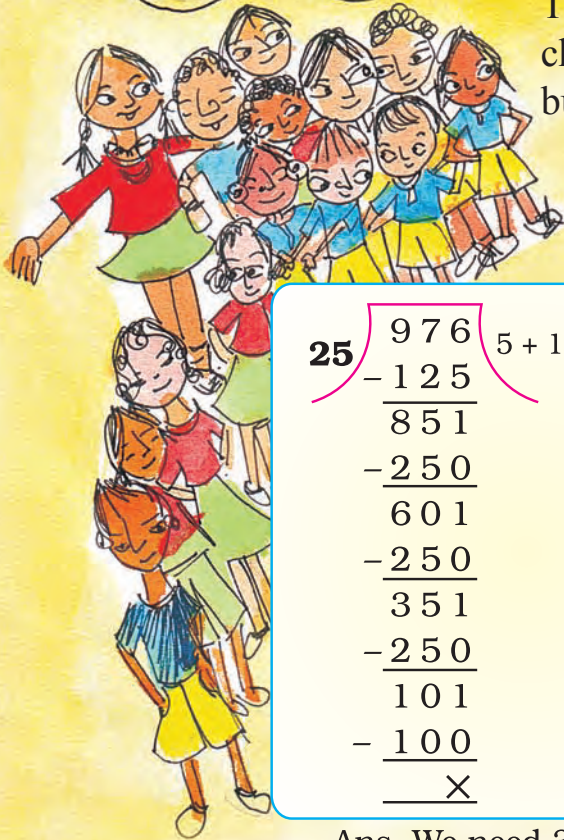
f) $639 \div 13$



How Many Times?

976 children are going on a picnic. They will be taken in mini buses. If 25 children can go in one bus, how many buses do they need?

- ❖ Two children have solved it. Check if they have made a mistake- correct it. Discuss.



$$\begin{array}{r}
 25 \overline{) 976} \quad 5 + 10 + 10 + 10 + 4 \\
 \underline{- 125} \\
 851 \\
 \underline{- 250} \\
 601 \\
 \underline{- 250} \\
 351 \\
 \underline{- 250} \\
 101 \\
 \underline{- 100} \\
 \underline{\quad \times}
 \end{array}$$

Ans. We need 39 buses.

$$\begin{array}{r}
 25 \overline{) 976} \quad 20 + 10 + 9 + 1 \\
 \underline{- 500} \\
 467 \\
 \underline{- 250} \\
 226 \\
 \underline{- 125} \\
 \underline{\quad 11}
 \end{array}$$

Ans. We need 40 buses.

How much petrol?

Afroza has Rs 1000 with her. She wants to buy petrol. One litre of petrol costs Rs 47. How many litres can she buy?

Money with Afroza = Rs 1000

Cost of 1 litre = Rs 47

Litres of petrol she can buy = Rs 1000 ÷ Rs 47 = ?

Afroza can buy _____ litres of petrol.



Find out

If Afroza comes to your city, how much petrol can she buy with the same money?

Children's Day

Children are happy today. They are celebrating children's day. Each child will be given 4 coloured pencils from school. The school has got 969 pencils. To find out how many children can get the teacher asks them to divide.



Maria's Way

$$\begin{array}{r} 4 \overline{) 969} \quad 100 + \\ - 400 \end{array}$$

Rukhsana's Way

$$\begin{array}{r} 4 \overline{) 969} \quad 200 + \\ - \end{array}$$

Complete Maria's and Rukhsana's way of division. What is the answer you get?

Practice Time



- ❖ 526 books are to be packed in boxes. If one box has 24 books, how many boxes are needed?

- ❖ 836 people are watching a movie in a hall. If the hall has 44 rows, how many people can sit in 1 row?

- ❖ A gardener bought 458 apple trees. He wants to plant 15 trees in each row. How many rows can he plant?

How many trees would be left over?



Brain Teaser



- ❖ Dilshada bought a battery. She read on it 'Life: 2000 hours'. She uses it throughout the day and the night. How many days will the battery run?

More with Multiplication and Division

- ❖ A tank is full of 300 L of water. How much water will be filled in 25 tanks? If 15 buckets can be filled with one tank, how many buckets in all can be filled with the water in 25 tanks?



- ❖ There are 28 laddoos in 1 kg. How many laddoos will be there in 12 kg? If 16 laddoos can be packed in 1 box, how many boxes are needed to pack all these laddoos?

- ❖ There are 26 rooms in a school. each room has 4 plants. If each plant needs 2 cups of water, how much water do we need for all the plants?



Make the Best Story Problem

Each line gives a story. You have to choose the question which makes the best story problem. The first one is already marked.

1. A shopkeeper has 50 boxes. There are 48 fruits in one box.

Tick the one question which matches with the given problem.

- a. How much will the shopkeeper pay in all? ☐
- b. How many fruits are there in all? ☒
- c. How many more boxes will he needed? ☐

Explain why (a) and (c) are not good choices.



2. 352 children from a school went on a camping trip. Each tent had a group of 4 children.



- a. How many children did each tent have? ☐
- b. How many tents do they need? ☐
- c. How many children in all are in the school? ☐

3. A shopkeeper has 204 eggs. He puts them in egg trays. Each tray has 12 eggs.

- a. How many more eggs will he need? ☐
- b. How many fresh eggs does he sell? ☒
- c. How many eggs trays does he need? ☐



4. The cost of one book is Rs 47. Sweety buys 23 books.

- How much money does she have?
- How much money does she pay for the books?
- What is the cost of 47 books?



Cross check for Ramzan



Ramzan wanted to divide Rs 2,456 amongst his 4 sons. He asked his eldest son to tell him how much money each one will get.

Papa, each of us will get $2456 \div 4 = \text{Rs } 624$.



When Ramzan started giving Rs 624 to each son, he was left with less money for the youngest one.



It seems you have made some mistake in the calculations. Let me check.

Ramzan multiplied 624 with 4. He got = Rs 2,469

Hum! This shows you have done the division wrong.



The son did the division again $2456 \div = 614$.

Before telling his father he checked on his own.

$614 \times 4 = 2456$. Now, it is correct. Each one will get Rs 614.

Practice Time

1 Do these divisions. Check your results by multiplication.

a) $438 \div 9$

b) $3480 \div 12$

c) $450 \div 7$

d) $900 \div 10$

e) $678 \div 6$

f) $2475 \div 11$

2 Solve the given sums and colour the answers in the grid given below. See what you find.

21×6

15×7

93×2

17×5

10×10

26×26

77×10

50×10

11×11

59×7

31×19

85×30

64×42

3200×40

19×3

248×8

$432 \div 18$

$729 \div 9$

$825 \div 5$

$221 \div 13$

$576 \div 12$

$288 \div 4$

$869 \div 11$

$847 \div 7$

$981 \div 3$

$475 \div 19$

545	110	434	642	709	623	919	341	72	168
984	165	561	608	236	513	529	62	259	905
709	907	367	632	336	121	492	178	431	475
165	806	584	186	100	589	72	717	248	676
624	80	105	24	165	17	85	770	126	500
247	997	485	2688	81	80	48	901	327	121
742	427	756	531	79	2550	347	1001	314	57
945	1000	687	854	1200	999	24	3126	918	53
109	799	845	1999	864	955	123	1234	678	56
549	459	614	1864	834	559	900	1111	268	171

Now Let Us Do These!

Q.NO.1 Multiply

i) 5986×42 ii) 1348×42 iii) 9307×17 iv) 123×123

Q.NO. 2 Complete the pattern:

a) $1 \times 9 - 1 = 08$

$21 \times 9 - 1 = 188$

$321 \times 9 - 1 = 2888$

$4321 \times 9 - 1 = 3 ______$

$______ \times 9 - 1 = 48888$

$654321 \times ___ - 1 = ______$

b) $37 \times 3 = 111$

$37 \times 6 = 222$

$37 \times 9 = 333$

$37 \times __ = 444$

$37 \times 15 = ______$

$37 \times 21 = ______$

Q.NO.3 Kabir saved Rs.565 a month. How much did he save in 5 years?

Q.NO. 4 There are 560 children in a school. Rs.20 is spent on each child every day. What is the amount spent on all children in one day?

Q.NO. 5 Find the product of 888 and the sum of 2676 and 2004?

Answers

Q.NO. 1

i) 251412 ii) 640300

iii) 158219 iv) 15129

Q.NO. 2

Both a) and b) are self explanatory

Q.NO. 3

Rs.33900

Q.NO. 4

Rs. 11200

Q.NO. 5

4155840