

7

Equal shares and equal groups

Rajitha's father makes candles at home and sells them in the market. Rajitha helps her father in packing the candles.

On Monday father made 30 candles. He asked Rajitha to pack the candles in packets of 5. How many packets will Rajitha make?



Rajitha divided the total number of candles into groups of 5.

$$30 \div 5 = 6$$

So she made 6 packets.

- (a) If father had asked Rajitha to make packets of 6 candles each then, how many packets would she make? _____



- (b) If father had asked Rajitha to make packets of 10 candles then, how many packets would she make? _____

On Tuesday father made 24 candles. He asked Rajitha to pack the candles equally in 3 packets.

- (c) How many candles will be there in each packet? _____

Rajitha divided the total number of candles into 3 groups.

$$24 \div 3 = 8$$

So she packed 8 candles in each packet.

- (d) If father had asked Rajitha to pack the candles equally in 8 packets then how many candles will be there in each packet? _____
- (e) If father had asked Rajitha to pack the candles equally in 12 packets then how many candles will be there in each packet? _____



Do This

- 8 people can sit safely in a jeep at one time. If 48 people need to be taken from a village to a fair, then how many such jeeps are required?
- If 6 oranges cost ₹ 54 then how much does 1 orange cost?
- There are 42 children in a class. If an equal number of children are sitting in 7 rows, then how many children are sitting in each row?
- The product of two numbers is 56. If one number is 7, then what is the other number?

Divide and multiply

We often use multiplication when doing division. Now write one division and one multiplication fact based on the pictures given below. One example has been done for you.

(a)



$$12 \div 2 = 6$$

$$2 \times 6 = 12$$

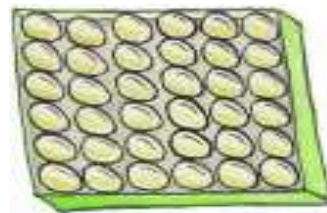
(b)



(c)



(d)



In fact we can check whether the division is correct or not by multiplying. Sudha has checked her division by multiplying like this-

$$84 \div 4$$

	21	Quotient
Divisor	4	Dividend
	84	
	8	
	04	
	04	
	0	

Check

$$\begin{array}{r} 21 \\ \times 4 \\ \hline 84 \end{array}$$

So $84 \div 4 = 21$
and $21 \times 4 = 84$

Do This

1. Divide and then check by multiplying.

(a) $75 \div 5$

(b) $84 \div 7$

(c) $96 \div 6$

2. Rajendra buys some books for ₹ 96. If each book costs ₹ 8, then how many books did Rajendra buy?

3. How many ₹ 5 are there in ₹ 95?

4. The tailor puts 6 buttons on each shirt. If he has 84 buttons, then in how many shirts can he put buttons on?



5. The product of two numbers is 77. If one number is 7, what is the other number?

6. It is 28 days to Dussera. How many weeks are there to Dussera?

7. When I am multiplied with 7, the product is 91. Who am I?

8. Make word problems of division based on the information provided in the pictures below.

(a)



(b)



(c)



Can 7 balls be divided equally among 2 children?

When 7 balls are divided equally among 2 children, then each child will get 3 balls. One ball will remain undivided. Now let us show this division-

$$\begin{array}{r} 3 \\ 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array}$$

3 is the quotient
1 is the remainder.

Now divide and find the remainder.

- (a) Divide 14 books into equal groups of four.

- (i) How many books will be there in each group? _____
(ii) How many books will remain undivided? _____

- (b) Put 9 bulbs equally in 2 rooms.

- (i) How many bulbs will be put in each room? _____
(ii) How many bulbs will remain undivided? _____



(c) Divide 15 pencils among 4 children equally.

(i) How many pencils will each child get? _____

(ii) How many pencils will remain undivided? _____

Now divide 68 oranges equally among 6 people.

$$\begin{array}{r} 11 \text{ ————— Quotient} \\ 6 \overline{)68} \\ \underline{6} \downarrow \\ 08 \\ \underline{06} \\ 02 \text{ ————— Remainder} \end{array}$$

11 is the quotient
2 is the remainder

Do This

- Divide and write the quotients and remainders.
 - $63 \div 5$
 - $49 \div 3$
 - $54 \div 4$
 - $67 \div 5$
 - $85 \div 4$
 - $68 \div 4$
- If one lemon costs ₹ 3, then how many lemons can be bought with ₹ 50. Will there be any money left?
- I lie between 30 and 40. When I am divided by 5, there is a remainder of 3. Who am I?
- If 74 apples are packed equally in 9 boxes. Then how many apples will be there in each box? How many apples will remain unpacked?
- How many ₹ 10 are there in ₹ 93? How many ₹ 1 are left?
- I lie between 50 and 60. When I am divided by 7, there is a remainder of 1. Who am I?
- The class teacher has bought 75 notebooks. If she gives each child 4 notebooks, then how many children can she distribute notebooks? How many notebooks will remain undistributed?

Dividing bigger numbers

Keshav teacher writes this problem on the board-

As usual, children did the problem differently.

$$250 \div 2$$

Vimala did it like this-

$$\begin{array}{r} 100 + 25 \\ 2 \overline{) 250} \\ \underline{200} \\ 50 \\ \underline{50} \\ 0 \end{array}$$

Quotient = 125
Remainder = 0

2 times what will bring
you closest to 250?

2 times what will bring
you closest to 50?

Sudha did it like this-

$$\begin{array}{r} 125 \\ 2 \overline{) 250} \\ \underline{2} \downarrow \\ 05 \\ \underline{4} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

Quotient = 125
Remainder = 0

2 times what will bring you
closest to 2?

2 times what will bring you
closest to 5?

2 times what will bring you
closest to 10?

Discuss the differences in the methods with your friends and teachers.

Keshav teacher then put another problem on the board.

$$398 \div 4 = ?$$

As usual, children did the problem differently.

Rama did it like this-

$$\begin{array}{r} 50 + 40 + 9 \\ 4 \overline{) 398} \\ \underline{200} \\ 198 \\ \underline{160} \\ 38 \\ \underline{36} \\ 2 \end{array}$$

Quotient = 99
Remainder = 2

4 times what will bring
you closest to 398

Vimala did it like this-

$$\begin{array}{r} 90 + 9 \\ 4 \overline{) 398} \\ \underline{360} \\ 38 \\ \underline{36} \\ 2 \end{array}$$

Quotient = 99
Remainder = 2

4 times what will bring
you closest to 398

Sudha did it like this-

$$\begin{array}{r} 99 \\ 4 \overline{) 398} \\ \underline{36} \\ 38 \\ \underline{36} \\ 2 \end{array}$$

Quotient = 99
Remainder = 2

4 times what will bring you
closest to 39?

4 times what will bring you
closest to 38?

Discuss the differences in the methods with your friends and teachers.

The teacher now put this problem on the board-

$$305 \div 10 = ?$$

Rama did it like this-

$$\begin{array}{r} 30 \\ 10 \overline{) 305} \\ \underline{300} \\ 5 \end{array}$$

Quotient = 30
Remainder = 5

10 times what will bring
you closest to 305?

Sudha did it like this-

$$\begin{array}{r} 30 \\ 10 \overline{) 305} \\ \underline{30 \downarrow} \\ 5 \\ 0 \\ \underline{5} \end{array}$$

Quotient = 30
Remainder = 5

10 times what will bring
you closest to 3?
10 times what will bring
you closest to 30?
10 times what will bring
you closest to 5?

Kamala did it like this-

$$\begin{array}{r} 3 \\ 10 \overline{) 305} \\ \underline{30 \downarrow} \\ 5 \end{array}$$

Quotient = 3
Remainder = 5

If 305 is divided into 10
equal parts, can each part
be equal to 3?

Are all the answers correct? What is the mistake that Kamala has made?

Try This

1. Find the number of mangoes Jaya has, if she distributes the mangoes to 2 children she is left with none. And when she distributes same mangoes to 3 children, one mango is left.

Do not divide. Just estimate!

If ₹ 97 are to be divided equally among 5 people, about how much will each one get?

97 is close to 100 and 100 can be easily divided by 5. So each person will get about $100 \div 5 = ₹ 20$.

Now, estimate and tick the closest answer in each of the following cases.

- (a) If 73 marbles have to be divided equally among 4 children, then how many marbles will each child get?

50 20 70

- (b) If 92 pencils have to be divided equally among 9 children, then how many pencils will each child get?

8 10 12

- (c) If 187 laddoos have to be divided in such a way that each box contains 6 laddoos, then how many such boxes will be required?

20 30 40

- (d) If ₹ 131 have to be divided among 7 people, then how much money will each one get?

20 15 10

- (e) If ₹ 461 have to be divided among 8 people, then how much money will each one get?

50 60 70

Exercise

1. When I am multiplied by 4, the product is 48. Who am I?
2. A car travels 96 kms in 3 hours. If it travels an equal distance every hour then how much will it travel in one hour?
3. A teacher bought 72 notebooks. She distributed 4 notebooks to each child. To how many children; notebooks are distributed?

4. The product of two numbers is 72. One of the numbers is 12. What is the other number?
5. A rope is 91 m long. How many 7 m. ropes can be cut from it?
6. When I am multiplied by 9, the product is 729. Who am I?
7. There are 648 people in 9 compartments of a train. How many people are there in each compartment?
8. 783 sarees are divided equally in 9 boxes. How many sarees will there be in each box?
9. 352 children went on a trip. If 8 children could sleep in one tent then how many tents are required for the children?
10. The weight of 7 rice bags is 350 kg. If all bags weigh the same then what is the weight of each bag?
11. How many weeks are there in a year? Remember a year has 365 days and 7 days in a week.
12. One apple costs ₹ 14. How many apples can be bought in ₹ 590? Will any money remain unspent?
13. 675 apples are packed in 15 cartons. How many apples are there in each carton?
14. A boy can read 17 pages in each day. In how many days can he read 340 pages?
15. There are 105 lemon plants in 15 rows equally. How many plants are planted in each row?
16. 280 children of a school are going for a picnic. If 35 students can sit in one bus, then how many buses are needed?
17. A water tank holds 500 liters of water. How many water cans of 22 litres capacity can be filled with water? How many liters of water will be left on the tank?

