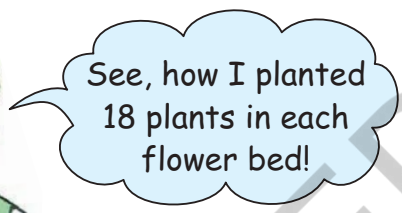
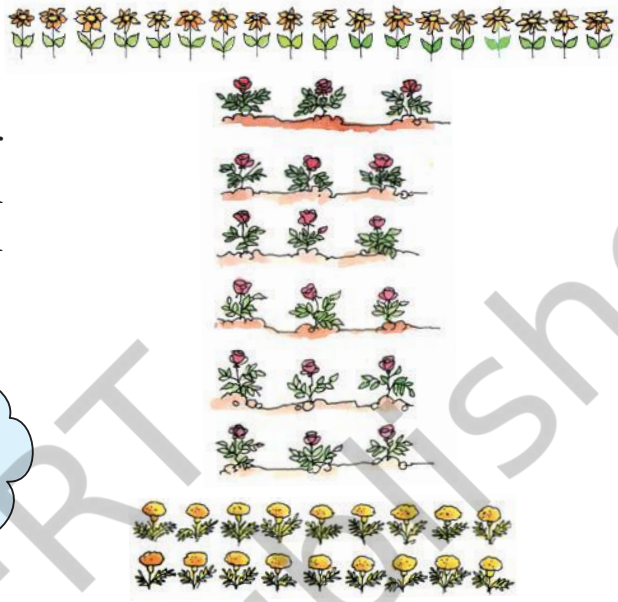
0425CH11

11 Tables and Shares

Shyama's Garden

Shyama has planted sunflower, rose and marigold plants in her garden. She has planted them in three flower-beds. Her garden looks like this.





Each flower- bed has a different arrangement.

See how the roses are planted.

$18 = 6 \times 3$ So there are 6 rows with 3 plants each.

What are the ways in which the sunflower and marigold are planted?

18 = _____ × _____ So there is ___ row with ___ plants.

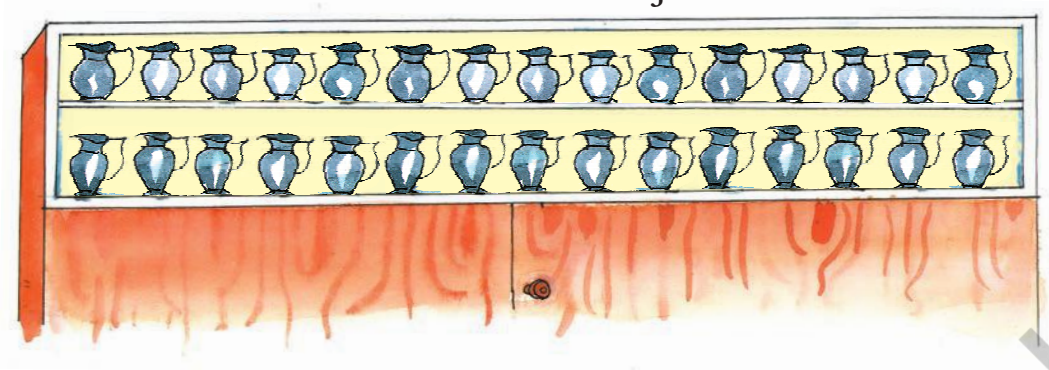
18 = _____ × _____ So there are ___ rows with ___ plants each.

You too can make your own garden. Draw a garden, showing flower-beds with 48 plants. Each row should have the same number of plants.

The concept of multiplication can be related to the arrangement of things in an array. Some other problems, based on contexts like the arrangement of chairs, children in the school assembly, etc., can also be discussed.

Jars in the Shelf

Bheema made a shelf for 30 jars. This is a long shelf with two rows. Each row has the same number of jars.

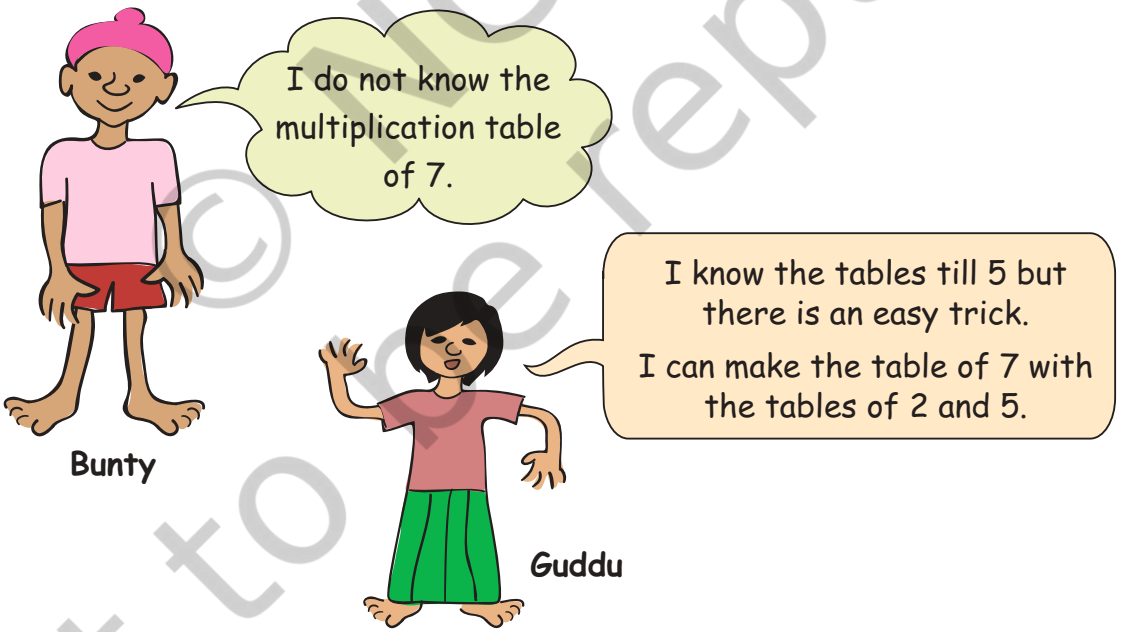


Can you think of other ways to make a shelf to keep 30 jars?

* Draw a shelf. Show how many jars you will keep in each row. How many rows are there?

  Have your friends drawn it in different ways?

Easy Tricks



Children will enjoy building new multiplication tables for themselves instead of only memorising them.

Table of 2

1×2	2×2	3×2	4×2	5×2	6×2	7×2	8×2	9×2	10×2
2	4	6	8	10	12	14	16	18	20

Table of 5

1×5	2×5	3×5	4×5	5×5	6×5	7×5	8×5	9×5	10×5
5	10	15	20	25	30	35	40	45	50

Table of 7

7	14	21	28	35	42	49	56	63	70

Help Bunty to make the table of 7, using tables of 4 and 3.

Table of 4

1×4	2×4	3×4	4×4	5×4	6×4	7×4	8×4	9×4	10×4
4	8								

Table of 3

1×3	2×3	3×3	4×3	5×3	6×3	7×3	8×3	9×3	10×3
3	6								

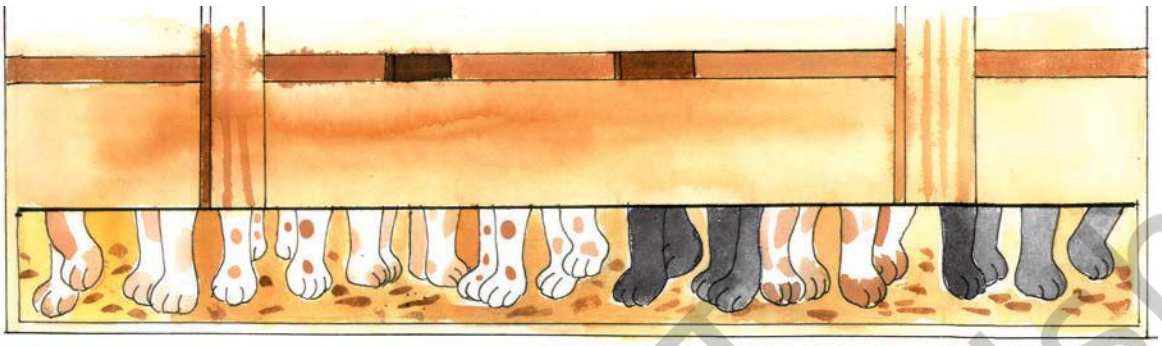
Table of 7

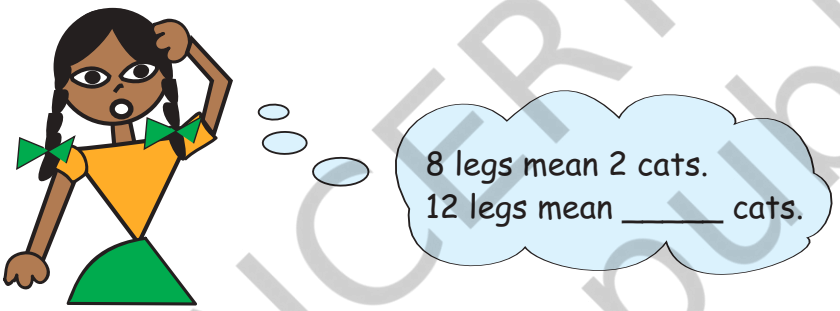
7								

Which two tables will you use for writing the table of 12?

How Many Cats?

Some of Gayatri's cats were playing in a box. When she tried to count, all she could see were legs. She counted 28 legs. How many cats are there in the box?





How many legs?	4	8	12					
How many cats?	1	2						

So 28 legs mean _____ cats.

* Billo has kept his chickens in a box. He counted 28 legs. How many chickens are there?
* Leela has not gone to school for 21 days. For how many weeks was she away from school?

Encourage children to fill in the table and also proceed towards making generalisations. For example, they should be able to see that 48 legs would mean there are 12 cats, or vice versa. In fact, this forms the foundation for algebraic thinking in later years.

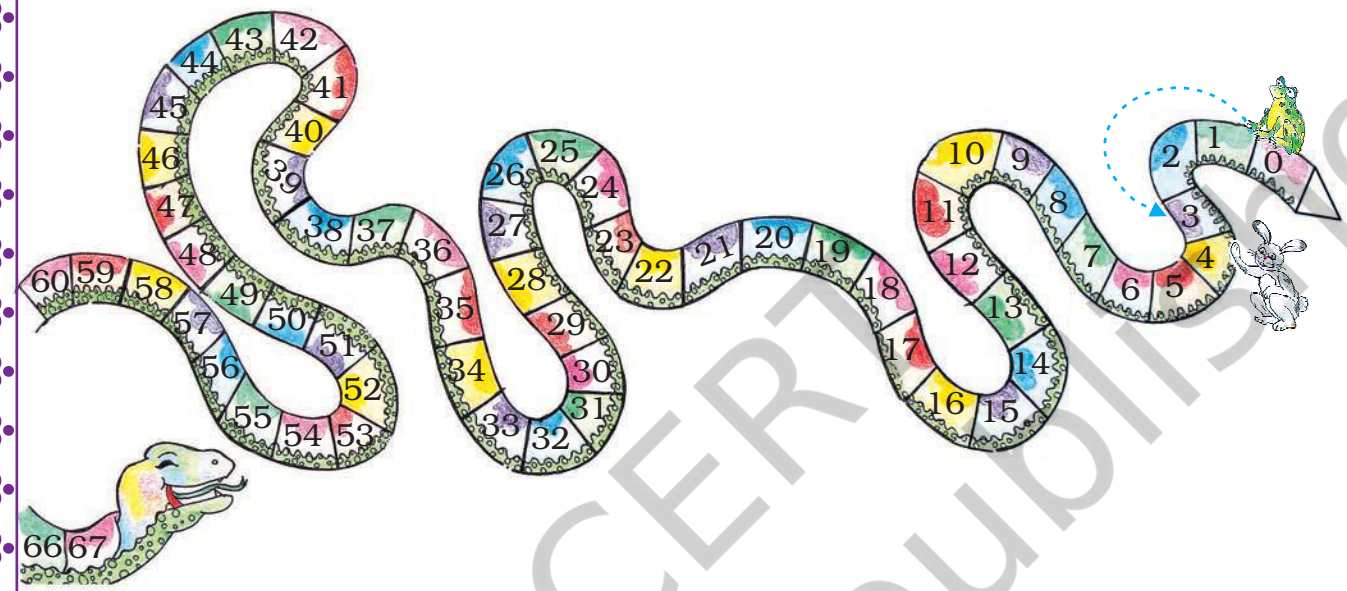
Jumping Animals

Do you remember the jumping animals of Class III?

A **frog** jumps 3 steps at a time starting from 0.

* Count the jumps he takes to reach 27.

So, he has taken 27 ÷ 3 = _____ jumps.



* He has taken _____ jumps, if he is at 36.
* If he is at 42, he has taken _____ jumps.

Starting from 0, a **rabbit** jumps 5 steps at a time.

* In how many jumps does he reach 25? _____
* He reaches _____ after taking 8 jumps.
* He needs _____ jumps to reach 55.

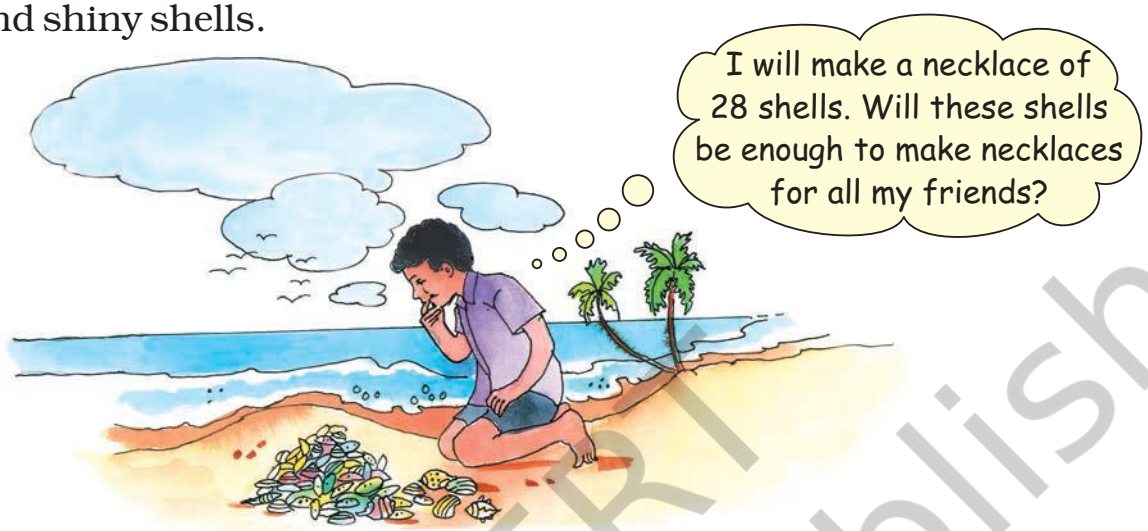
Practice Time

1) 28 ÷ 2 =
2) 56 ÷ 7 =
3) 48 ÷ 4 =
4) 66 ÷ 6 =
5) 96 ÷ 8 =
6) 110 ÷ 10 =

Children have done similar kinds of exercises for multiplication and division in Class III. Refer to pages 173-176, Math-Magic Class III, NCERT.

Sea Shells

Dhruv lives near the sea. He thought of making necklaces for his three friends. He looked for sea-shells the whole day. He collected 112 sea-shells by evening. Now he had many different colourful and shiny shells.



He took 28 shells for one necklace.

112 – 28 = 84

Now he was left with 84 shells. Again he took 28 more shells for the second necklace.

* How many shells are left now? _____

Then he took shells for the third necklace.

* So he was left with _____ shells.
* How many necklaces can Dhruv make from 112 shells? _____
* Are the shells enough for making necklaces for all his friends? _____

Try these

A) Kannu made a necklace of 17 sea-shells. How many such necklaces can be made using 100 sea-shells?

Encourage children to solve questions based on division with large numbers, for which they do not know multiplication tables, using repeated subtraction. More problems based on real life contexts can be given.

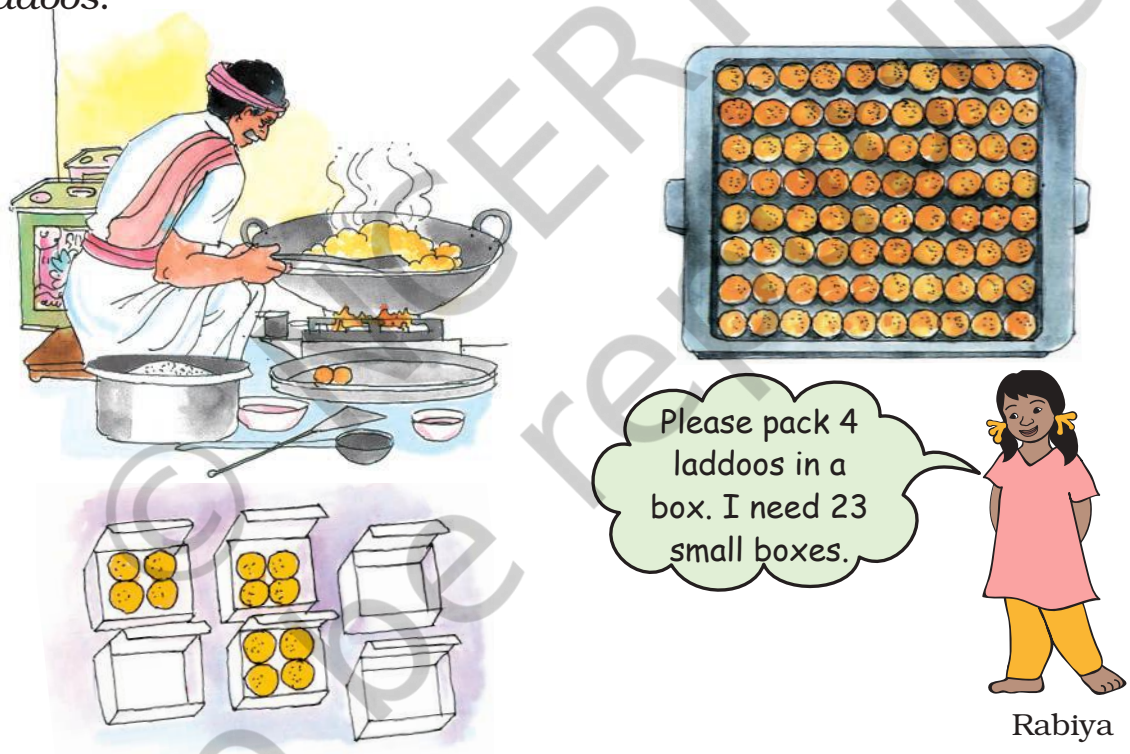
B) One carton can hold 85 soap bars. Shally wants to pack 338 soap bars. How many cartons does she need for packing all of them?

C) Manpreet wants 1500 sacks of cement for making a house. A truck carries 250 sacks at a time. How many trips will the truck make?

A driver charges Rs 500 for a trip. How much will Manpreet pay the driver for all the trips?

Gangu's Sweets

Gangu is making sweets for Eid. He has made a tray of 80 *laddoos*.



* Are the sweets in the tray enough to pack 23 small boxes? _____

* How many more sweets are needed? _____

For solving this problem, encourage children to use their own strategies — of making groups in the tray, using multiplication to do division or repeated subtraction, etc.

* Gangu also has a bigger box in which he packs 12 *laddoos*. How many boxes does he need for packing 60 *laddoos*?

Practice Time

1) Neelu brought 15 storybooks to her class. Today 45 students are present. How many children will need to share one book?

2) A family of 8 people needs 60 kg wheat for a month. How much wheat does this family need for a week?

3) Razia wants change for ₹ 500.

How many notes will she get if she wants in return —

(a) All 100 rupee notes? _____

(b) All 50 rupee notes? _____

(c) All 20 rupee notes? _____

(d) All 5 rupee notes? _____

* You have to distribute 72 tomatoes equally in 3 baskets. How many tomatoes will there be in each?

* There are 350 bricks in a hand-cart. Binod found the weight of a brick to be 2 kg. What will be the weight of all the bricks?

Children and their Grandfather

Rashi, Seema, Mridul, Rohit and Lokesh asked their grandfather to give them money for the Fair.

I have 70 rupees in my pocket. Tell me how to share money equally among all of you . If you are right, you get this money!

One method

Rashi and Seema thought for a while and said — We know how to do 70 ÷ 5.

Seema starts writing and says —

$$\begin{array}{r|l} & 10 \\ \hline 5 & 70 \\ & -\ 50 \\ \hline & 20 \end{array}$$

→ First I give ₹ 10 to each one of us.

→ So, I have distributed 5 × 10 = 50 rupees.

→ 20 rupees are still left.

Rashi completes it like this. She says —

$$\begin{array}{r|l} & 10 + 4 \\ \hline 5 & 70 \\ & -\ 50 \\ \hline & 20 \\ & -\ 20 \\ \hline & 0 \\ \hline \end{array}$$

I give 4 rupees more to each. So I have distributed 20 rupees. ←

Now nothing is left. And all the money is divided equally. ←

So, each gets 10 + 4 = 14 rupees.

This method is actually about how children divide when they distribute some objects repeatedly. In this case, they might first give ₹ 10 each to five people and then next distribute the remaining money in the second round. They could as well distribute it by first giving Rs 5 to each. Children can, thus, use any way to complete the process of division. This is the beauty of this method.

Another Method

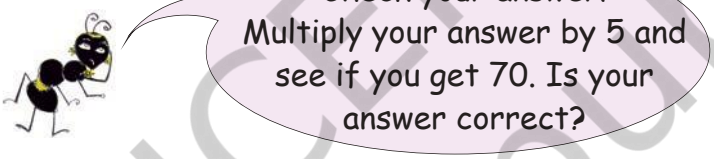
Mridul and Lokesh are trying 70 ÷ 5 in a different way.
Lokesh writes —
First, I give ₹ 5 to each. →

I have distributed 5 × 5 = 25 rupees. →
Next, I give ₹ 6 more to every one.
I have distributed 30 rupees more. →
Now I am left with _____ rupees. →

```
      5 + 6
    ------
5 ) 70
  - 25
  ----
    45
  - 30
  ----
     ?
```

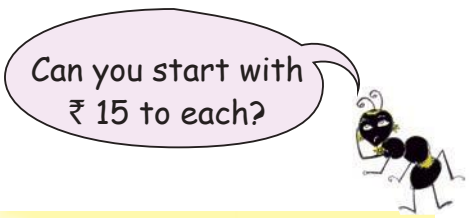
How will Lokesh distribute the rest of the money? Complete it.

So, each child gets 5 + 6 + _____ = _____ rupees.



Your Method

* Now use your own method to divide ₹ 70 equally among 5 people. If you want you can start by giving ₹ 2 to each. Or you can even start with ₹ 11 to each.



Try Doing These

a) $5\overline{)65}$ b) 84 ÷ 2 c) $3\overline{)69}$ d) 90 ÷ 6

e) $4\overline{)72}$ f) $9\overline{)108}$ g) 232 ÷ 2 h) $2\overline{)428}$

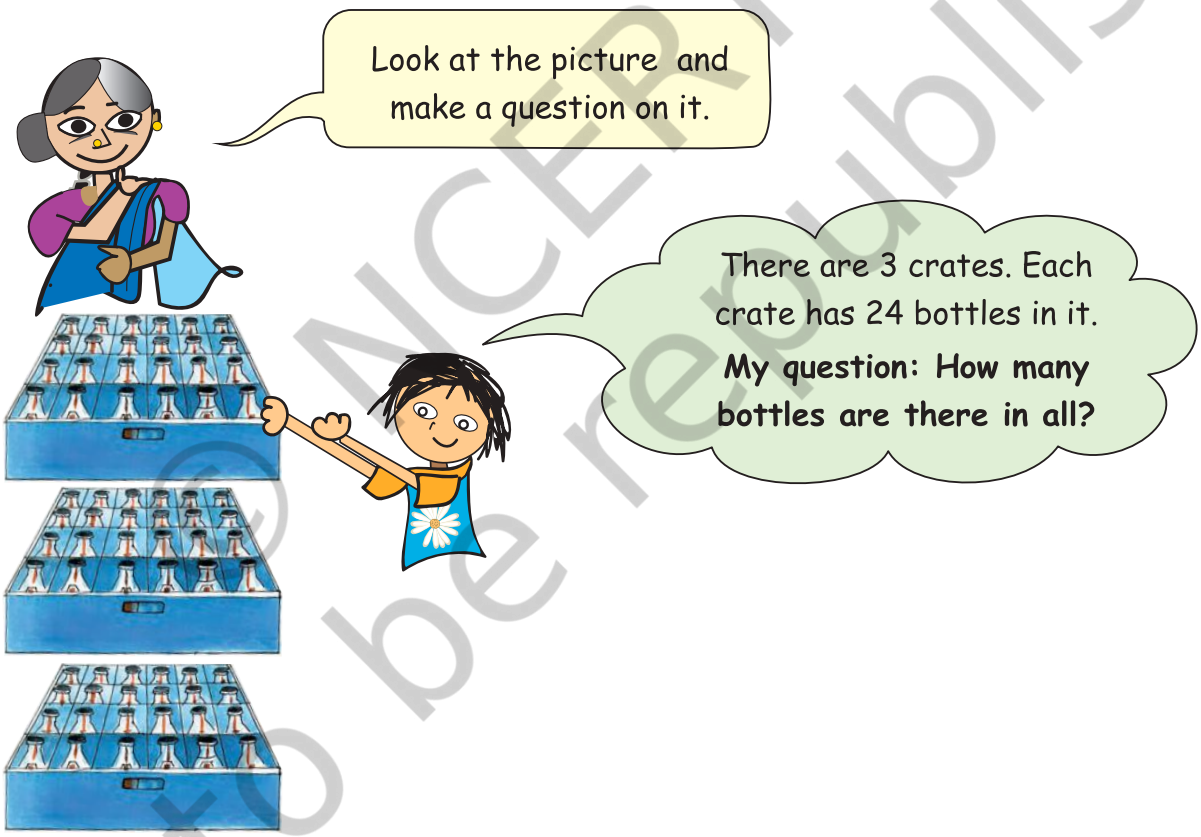
i) Meera made 204 candles to sell in the market. She makes packets of 6. How many packets will she make?

If she packs them in packets of 12, then how many packets will she make?

j) On Sports Day, 161 children are in the school playground. They are standing in 7 equal rows. How many children are there in each row?

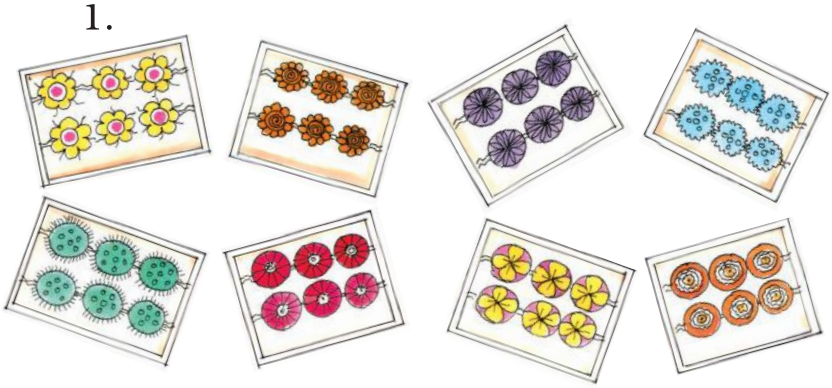
Story Problems

Srishti's grandma is asking her to make problems.



Now you look at the other pictures and make questions like Srishti.

1.

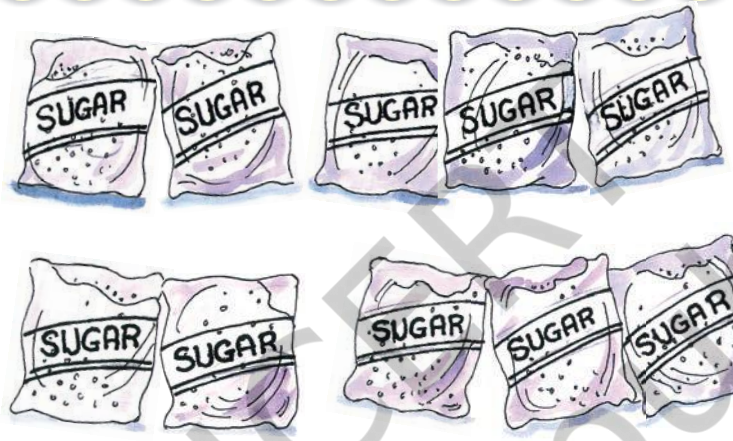


There are 8 packets of *rakhis*.

Each packet has 6 *rakhis* in it.

Your question:

2.



There are 10 packets of sugar.

Saurabh paid 110 rupees for all the packets.

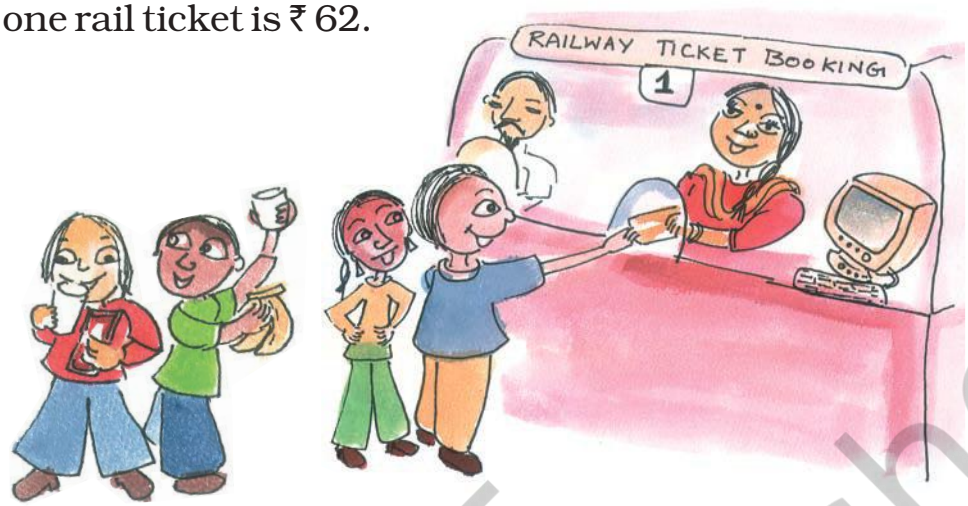
Your question:

3.

There are 35 students in 7 rows. Each row has the same number of students.

Your question:

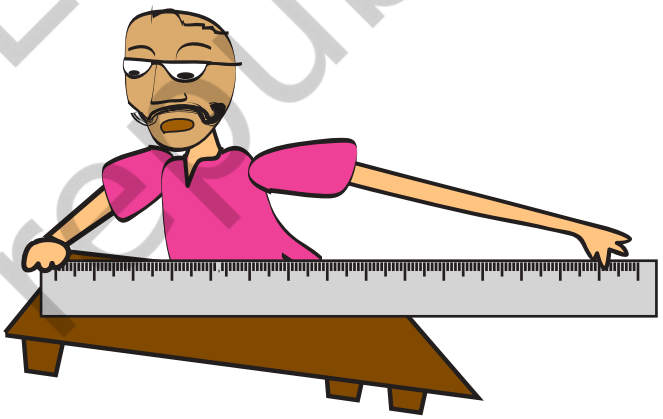
4. Hari, Seema, Chinku and Lakshmi are going to Guwahati.
The cost of one rail ticket is ₹ 62.



Your question:

5. One metre of cloth costs ₹ 20. Lalbiak bought some cloth and paid ₹ 140.

Your question:



Your question:

Also guess the answers.