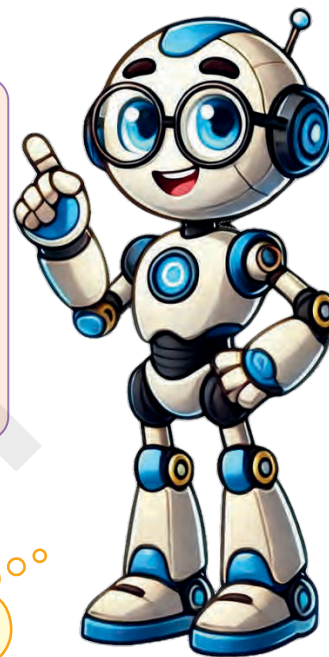




Addition and Subtraction up to 20

We'll cover the following key points:

- | | |
|-------------------------------|----------------------------------|
| → Addition | → Word Problems |
| → Adding With Strokes | → Subtraction |
| → Addition on the Number Line | → Subtraction on the Number Line |
| → Properties of Zero | → Subtraction Facts |
| → Addition Facts | |



Hi, I'm EeeBee



Still curious?
Talk to me by
scanning
the QR code.

Learning Outcomes

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

- Add numbers using strokes (tally marks) to show the sum.
- Use a number line to add numbers up to 20.
- Understand the concept of zero in addition (e.g., adding zero to any number gives the same number).
- Memorize and recall basic addition facts (e.g., $1 + 1$, $2 + 3$).
- Solve simple word problems involving addition up to 20.
- Understand and perform subtraction (take away) using numbers up to 20.
- Use a number line to subtract numbers up to 20.

Guidelines for Teachers

Start by introducing addition using strokes or tally marks to help students visualize simple sums. Teach addition on the number line, guiding students to count forward to find the sum. Explain the properties of zero, showing that adding zero to any number keeps it the same. Practice basic addition facts with fun activities, helping students recall sums up to 20. Introduce subtraction through simple examples, using the number line to count backwards, and teach subtraction facts to reinforce the concept of taking away.





Warm Up



1 bird is sitting on the wall.



2 birds are coming to sit on the same wall.



How many birds are there now?



There are 3 butterflies on the flower.



1 butterfly flies away.



How many butterflies are left?

Addition

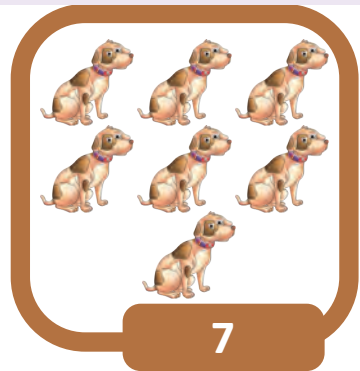
4 dogs and 3 more dogs are 7 dogs.



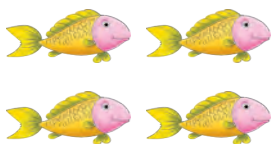
+



=



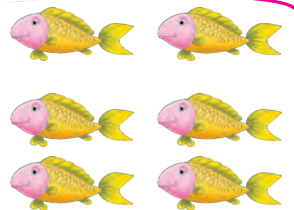
Addition is when you join two or more numbers to make one number. "+" is the symbol of addition. It is read as '**plus**'. The result that we get is called the **sum**. **7 is the sum of 4 and 3.**



and



is equal to



4

+

2

=

6

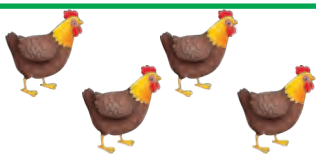


Exercise 3.1

Count and write how many in all.



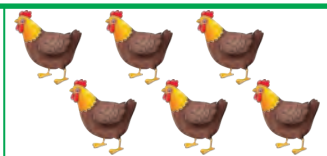
Critical Thinking



and



is equal to



+



=



and



is equal to



+



=



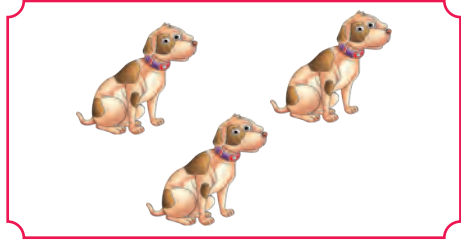
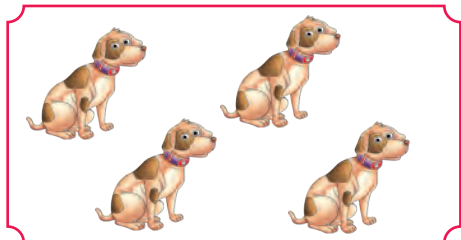
and

is equal to

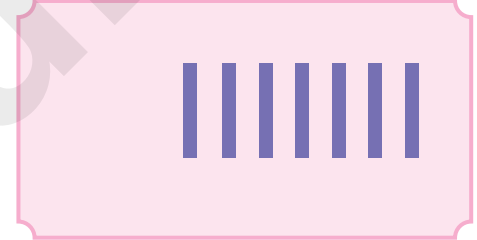
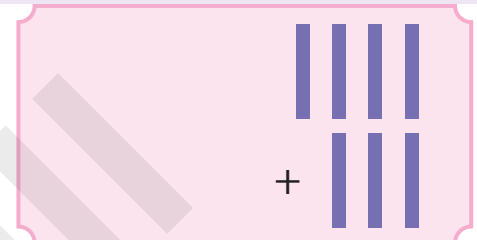
Adding With Strokes

Take a Task

Watch Remedial



$$\begin{array}{r}
 4 \\
 + 3 \\
 \hline
 7
 \end{array}$$



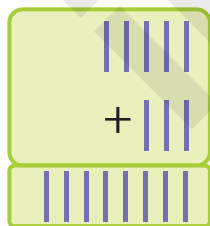
Exercise 3.2

Add by drawing strokes.
One has been done for you.



Art-integrated Learning

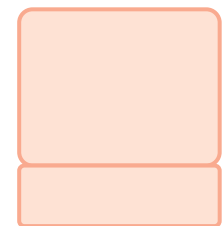
$$\begin{array}{r}
 5 \\
 + 3 \\
 \hline
 8
 \end{array}$$



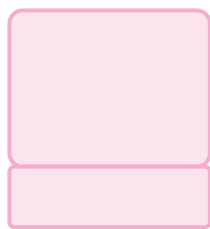
$$\begin{array}{r}
 6 \\
 + 2 \\
 \hline
 \hline
 \end{array}$$



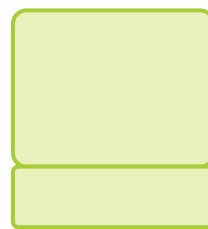
$$\begin{array}{r}
 5 \\
 + 4 \\
 \hline
 \hline
 \end{array}$$



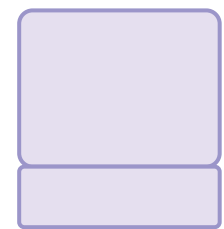
$$\begin{array}{r}
 4 \\
 + 2 \\
 \hline
 \hline
 \end{array}$$



$$\begin{array}{r}
 7 \\
 + 2 \\
 \hline
 \hline
 \end{array}$$



$$\begin{array}{r}
 12 \\
 + 3 \\
 \hline
 \hline
 \end{array}$$



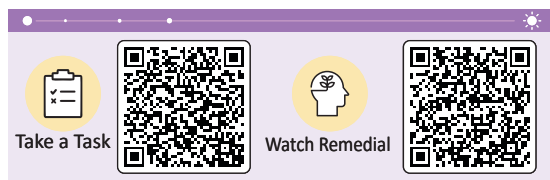
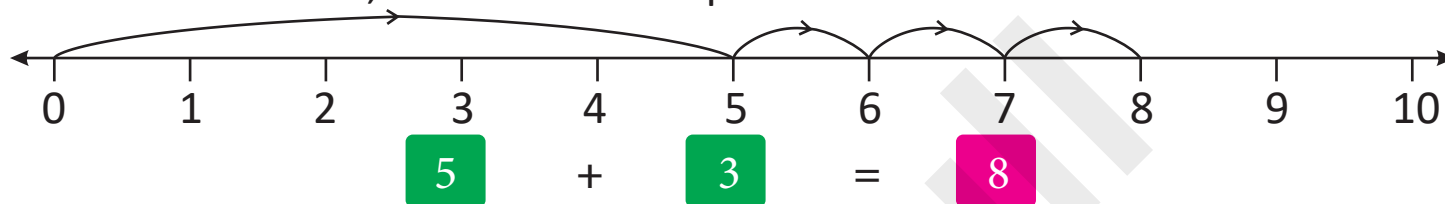
Addition on the Number Line

We can also use a number line for adding numbers.

For addition, we count forward.

Let us add 5 and 3 on number line.

We first mark 5 and then count 3 more on the number line. Then, we reach to the point marked 8.



REMEMBER

9 is the biggest 1-digit number.

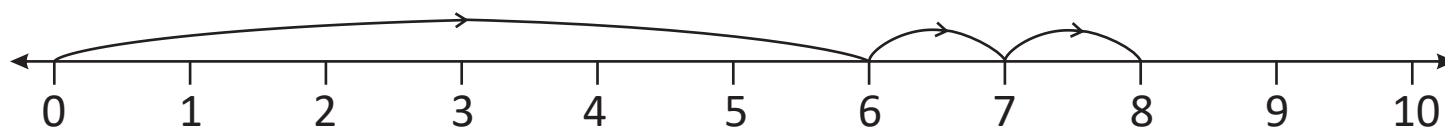
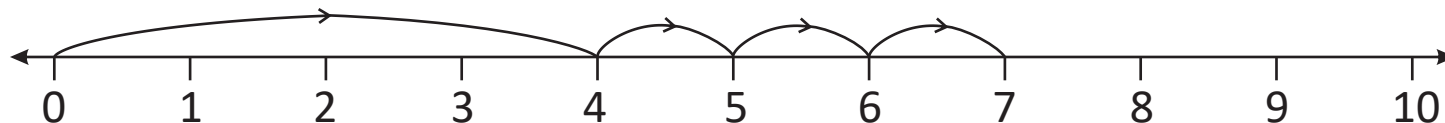
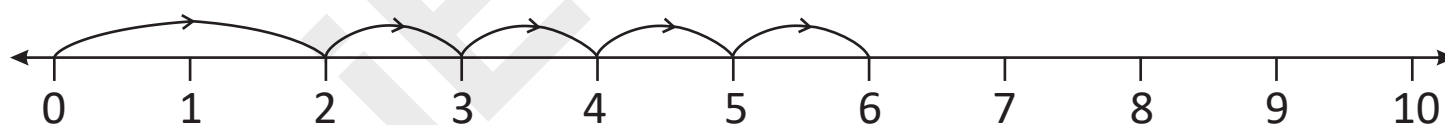


Exercise 3.3

Fill in the boxes.



Experiential Learning

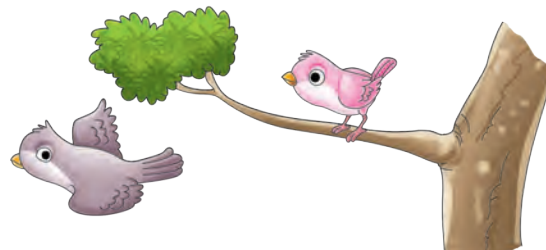


Properties of Zero

There are two birds.



One bird flies away.



Then, the other bird also flies away.

How many birds are left now?

None is written as **zero (0)**.



- ★ When we subtract a number from itself, the result is zero.

5
– 5
0

- ★ When we add 0 to a number, the number remains same.

5
+ 0
5

- ★ There are 5 apples on a plate.

Govind does not take any apple from it.

How many apples will be left on it?

Of course, the number of apples remains same.

That is, 5.



- ★ When we subtract 0 from a number, the number remains same.

5
– 0
5

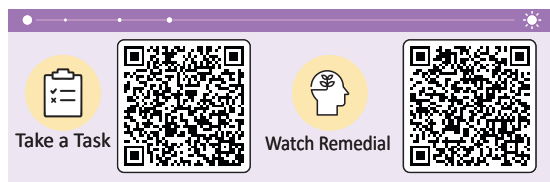
REMEMBER



9 is bigger than 0, 1, 2, 3, 4, 5, 6, 7 and 8.


Addition Facts

Each number has one more addition facts than the number itself.



Addition facts of 1

 $1 + 0 = 1$

 $0 + 1 = 1$

Addition facts of 3

   $3 + 0 = 3$

   $2 + 1 = 3$

   $1 + 2 = 3$

   $0 + 3 = 3$

Addition facts of 5

     $5 + 0 = 5$

     $4 + 1 = 5$

     $3 + 2 = 5$

     $2 + 3 = 5$

     $1 + 4 = 5$

     $0 + 5 = 5$

Addition facts of 2

  $2 + 0 = 2$

  $1 + 1 = 2$

  $0 + 2 = 2$

Addition facts of 4

    $4 + 0 = 4$

    $3 + 1 = 4$

    $2 + 2 = 4$

    $1 + 3 = 4$

    $0 + 4 = 4$

REMEMBER



$7 + 5 = 12$. It can also be written as
 $10 + 2 = 12$.

$12 + 5 = 17$. It can also be written as
 $10 + 2 + 5 = 10 + 7 = 17$.



Exercise 3.4

Write the missing number.

(i) $2 + \square = 2$

(ii) $1 + \square = 1$

(iii) $3 + \square = 5$

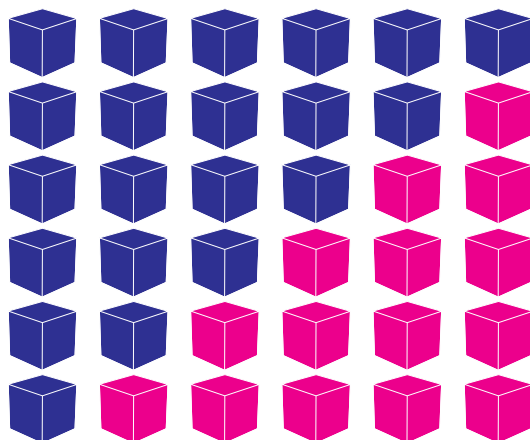
(iv) $3 + \square = 3$

(v) $1 + \square = 4$

(vi) $0 + \square = 4$



Addition facts of 6



$$6 + 0 = 6$$

$$5 + 1 = 6$$

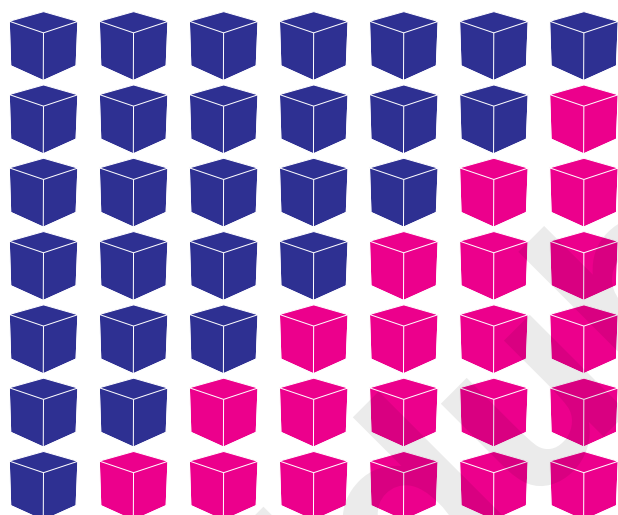
$$4 + 2 = 6$$

$$3 + 3 = 6$$

$$2 + 4 = 6$$

$$1 + 5 = 6$$

Addition facts of 7



$$7 + 0 = 7$$

$$6 + 1 = 7$$

$$5 + 2 = 7$$

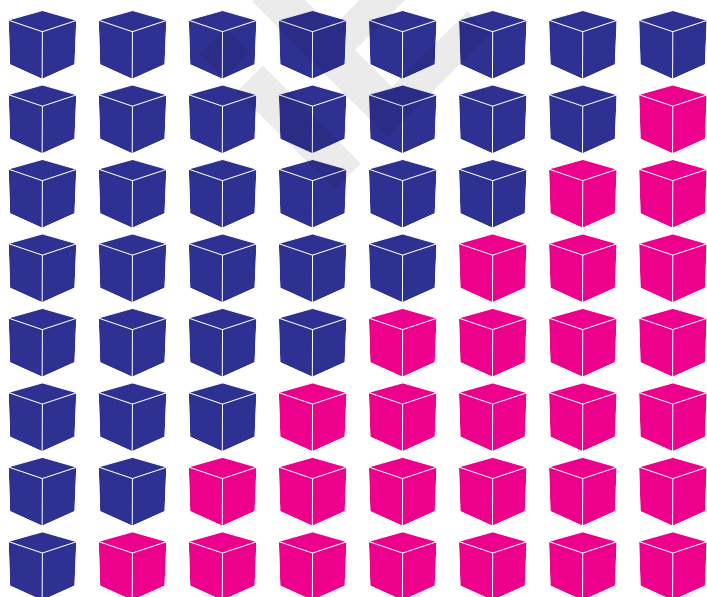
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

Addition facts of 8



$$8 + 0 = 8$$

$$7 + 1 = 8$$

$$6 + 2 = 8$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

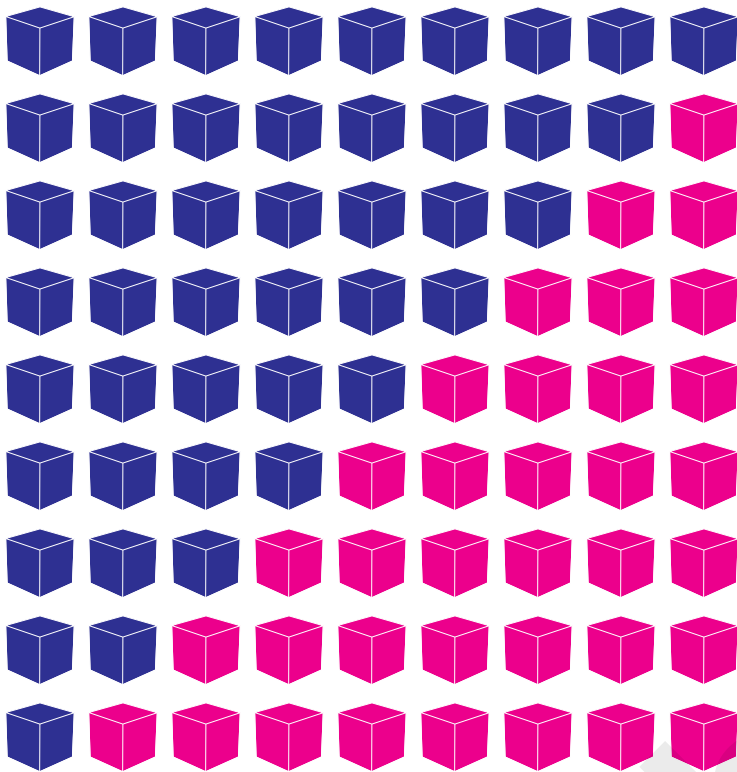
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$



Addition facts of 9



$9 + 0 = 9$

$8 + 1 = 9$

$7 + 2 = 9$

$\underline{\quad} + \underline{\quad} = 9$

$\underline{\quad} + \underline{\quad} = 9$

$\underline{\quad} + \underline{\quad} = 9$

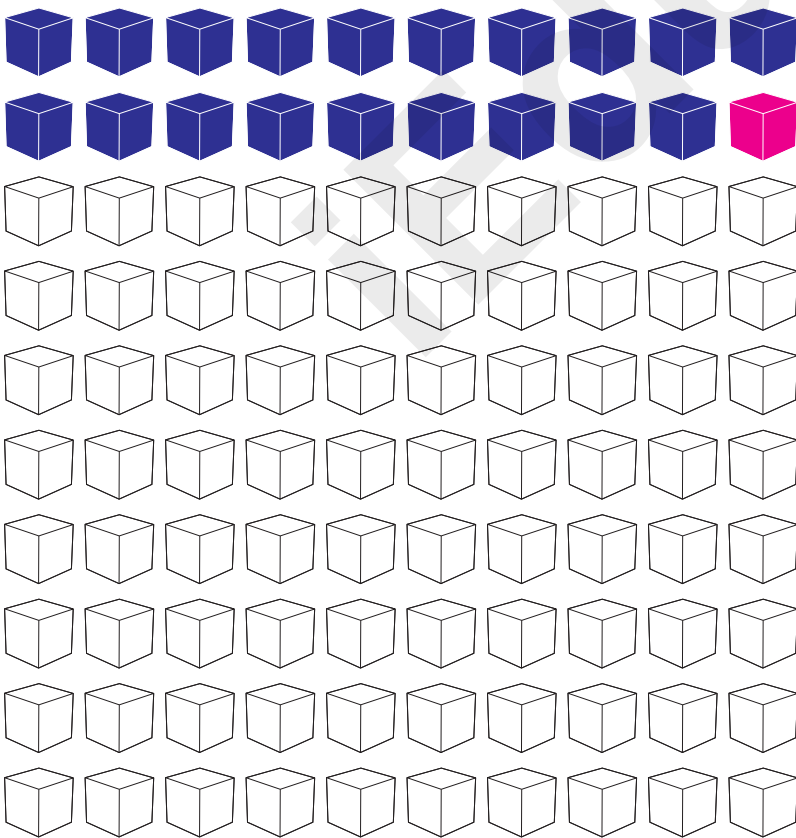
$\underline{\quad} + \underline{\quad} = 9$

$\underline{\quad} + \underline{\quad} = 9$

$\underline{\quad} + \underline{\quad} = 9$

Addition facts of 10

Colour the boxes and write the addition facts of 10.



$10 + 0 = 10$

$9 + 1 = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$

$\underline{\quad} + \underline{\quad} = 10$





Exercise 3.5

Fill in the boxes:

1. $2 + 3 = \square$

2. $7 + \square = 9$

3. $8 + \square = 8$

4. $4 + \square = 6$

5. $6 + 2 = \square$

6. $\square + 3 = 6$

7. $3 + 4 = \square$

8. $\square + 6 = 9$

9. $7 + \square = 8$

10. $5 + \square = 8$

11. $\square + 4 = 7$

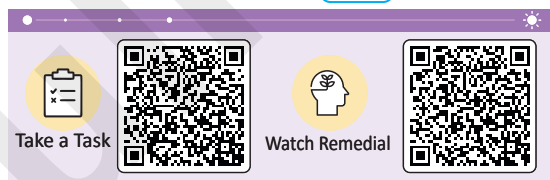
12. $9 + \square = 9$

13. $5 + \square = 5$

14. $8 + 1 = \square$

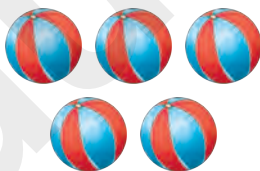
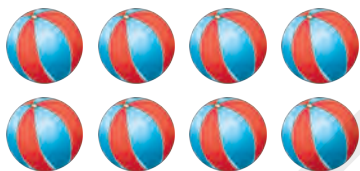
15. $7 + \square = 7$

Word Problems



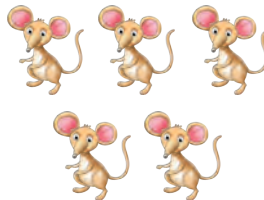
Match the question to its answer. One has been done for you.

1. Ranjan buys 8 balls and his brother buys 5 balls. How many balls do they buy in all?



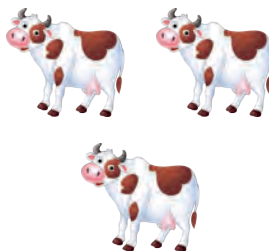
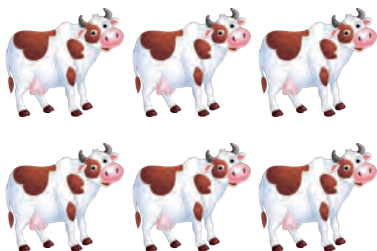
8
+ 5
13

2. There are 12 mice in one room and 5 mice in another room. How many mice are there in all?



+

3. There are 6 cows in one field and 3 more in another field. How many cows are there in all?



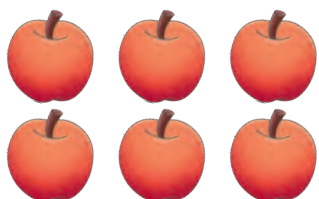
+



Exercise 3.6

Answer the following. One has been done for you.

1. Ravi had 6 apples. Rupali gave him 2 more apples. How many apples does Ravi have now?



+

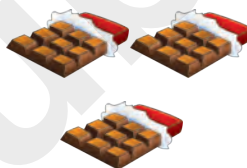
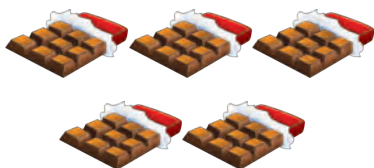
6
2
8

2. A circus has 3 tigers and 2 elephants. How many animals does the circus have?



+

3. I have 5 chocolates. My sister has 3 chocolates. How many chocolates do we have altogether?



+

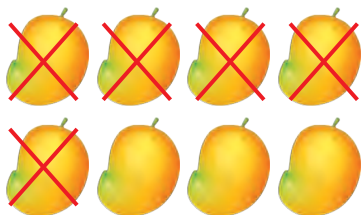
Subtraction

The way to find the difference between two numbers is called **subtraction**.

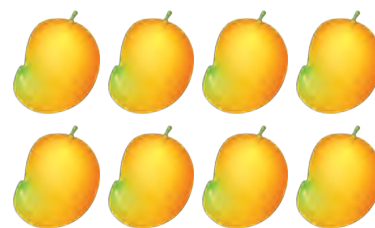
There are 8 mangoes.

You have eaten 5 mangoes.

How many mangoes are left now?



There are 3 mangoes now.



Take a Task

Watch Remedial

We write it as, $8 - 5 = 3$. The sign '-' is the symbol of subtraction. It is read as 'minus'.

We can also say that difference between 8 and 5 is 3.

Let us take another example.

Nin` has 5 balloons.

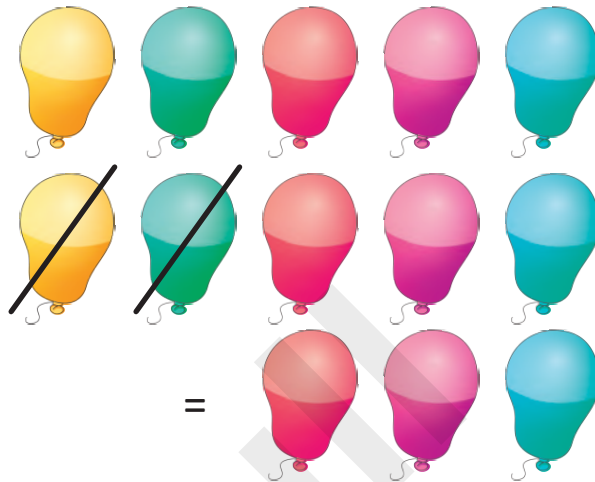
He has lost 2 balloons.

Now, he has 3 balloons.

We read this as 2 taken away from 5 is equal to 3.

Or, 5 minus 2 is equal to 3.

Or, $5 - 2 = 3$



REMEMBER

Subtraction is to take away.

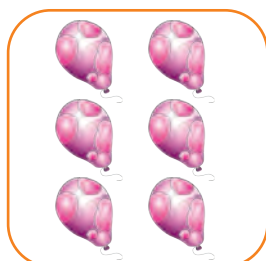


Exercise 3.7

1. Subtract the following:



Problem Solving



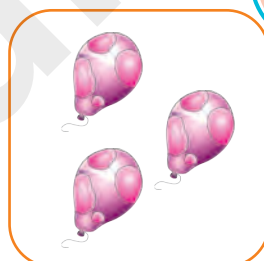
6 balloons

-

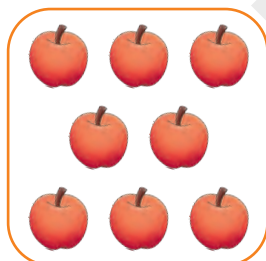


3 float away

=

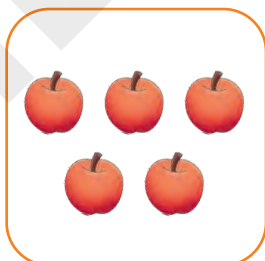


$$\bigcirc - \bigcirc = \bigcirc$$



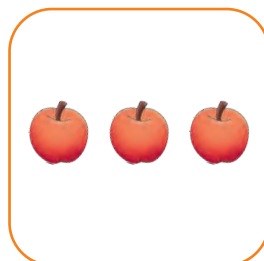
8 apples

-

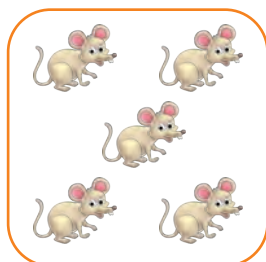


5 are eaten

=

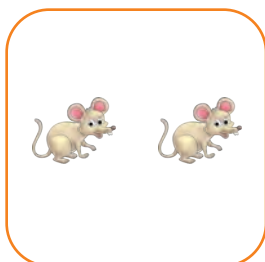


$$\bigcirc - \bigcirc = \bigcirc$$



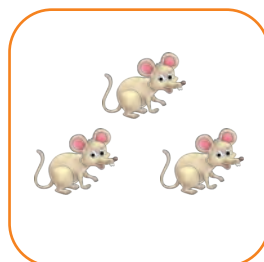
5 rats

-



2 goes away

=



$$\bigcirc - \bigcirc = \bigcirc$$

2. Subtract the following:

$$\begin{array}{r} 9 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

3. Subtract the following:

$$9 - 2 = \boxed{}$$

$$5 - 4 = \boxed{}$$

$$7 - 5 = \boxed{}$$

$$6 - 1 = \boxed{}$$

$$5 - 2 = \boxed{}$$

$$8 - 4 = \boxed{}$$

$$4 - 2 = \boxed{}$$

$$1 - 0 = \boxed{}$$

$$7 - 7 = \boxed{}$$

Subtraction on the Number Line

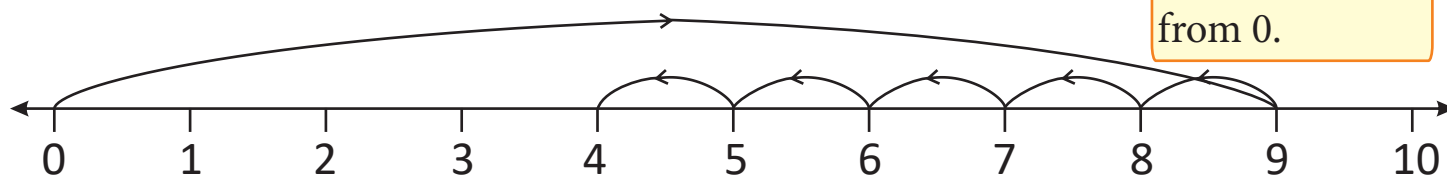
We count **backward** for subtraction on the number line.

Let us subtract 5 from 9 on a number line. Starting from 0, first mark 9 on the number line. Then, count 5 steps backward. We reach at the number 4.



REMEMBER

We always start from 0.



Thus, $9 - 5 = 4$

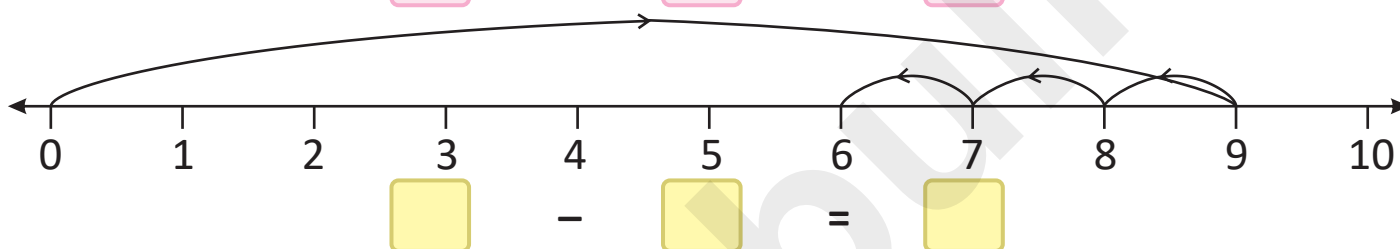
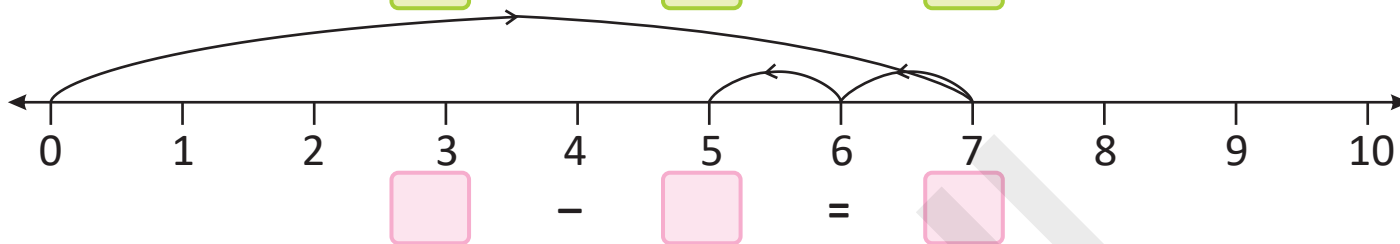
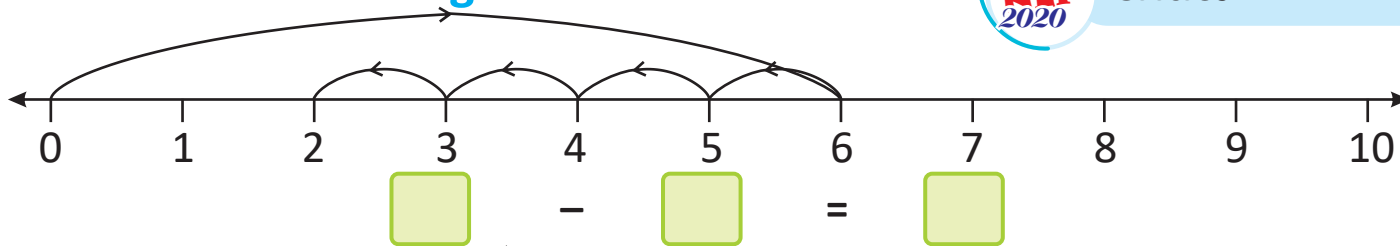


Exercise 3.8

Subtract the following on the number line:



Critical Thinking



Subtraction Facts

Subtraction facts of 1

$1 - 0 = 1$

$1 - 1 = 0$

Subtraction facts of 3

$3 - 0 = 3$

$3 - 1 = 2$

$3 - 2 = 1$

$3 - 3 = 0$

Subtraction facts of 2

$2 - 0 = 2$

$2 - 1 = 1$

$2 - 2 = 0$

Subtraction facts of 4

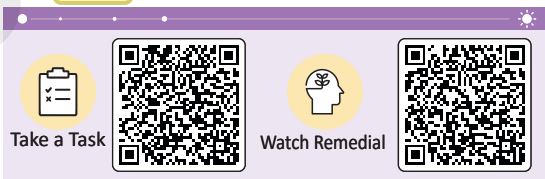
$4 - 0 = 4$

$4 - 1 = 3$







$4 - 2 = 2$

$4 - 3 = 1$








$4 - 4 = 0$











Subtraction facts of 5

	$5 - 0 = 5$
	$5 - 1 = 4$
	$5 - 2 = 3$
	$5 - 3 = 2$
	$5 - 4 = 1$
	$5 - 5 = 0$










Subtraction facts of 6

	$6 - 0 = 6$
	$6 - 1 = 5$
	$6 - 2 = 4$
	$6 - 3 = 3$
	$6 - 4 = 2$
	$6 - 5 = 1$
	$6 - 6 = 0$





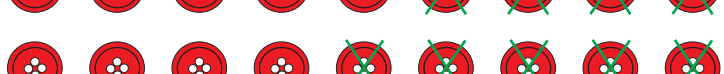





Subtraction facts of 7

	$7 - 0 = 7$
	$7 - 1 = 6$
	$7 - 2 = \underline{\quad}$
	$7 - 3 = \underline{\quad}$
	$7 - 4 = \underline{\quad}$
	$7 - 5 = \underline{\quad}$
	$7 - 6 = \underline{\quad}$
	$7 - 7 = \underline{\quad}$

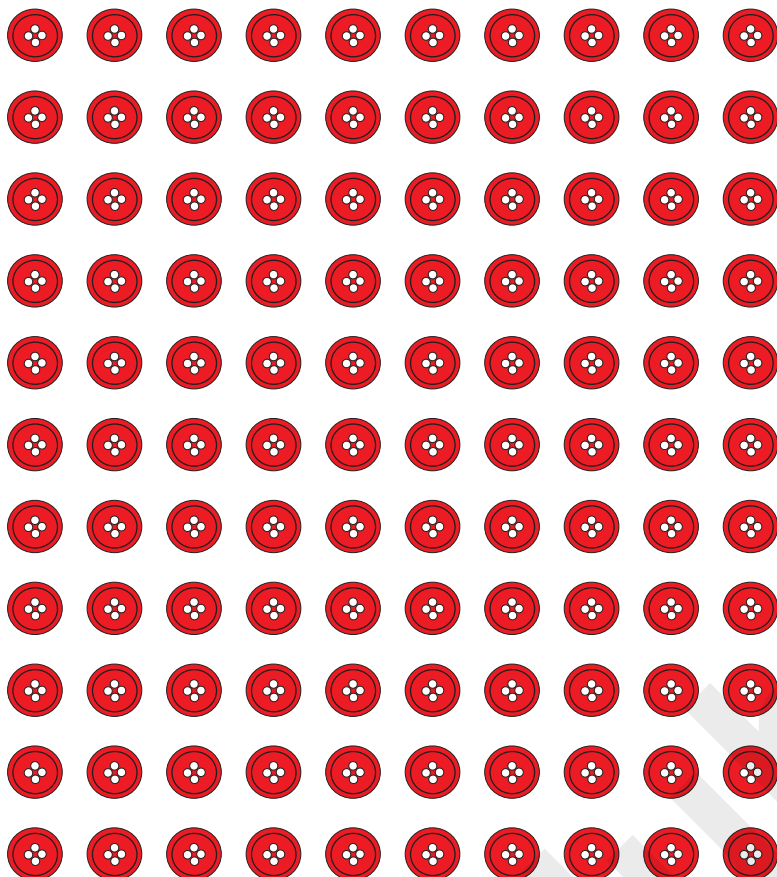
Subtraction facts of 8

	$8 - 0 = 8$
	$8 - 1 = \underline{\quad}$
	$8 - 2 = \underline{\quad}$
	$8 - 3 = \underline{\quad}$
	$8 - 4 = \underline{\quad}$
	$8 - 5 = \underline{\quad}$
	$8 - 6 = \underline{\quad}$
	$8 - 7 = \underline{\quad}$
	$8 - 8 = \underline{\quad}$

Subtraction facts of 9

	$9 - 0 = 9$
	$9 - 1 = 8$
	$9 - 2 = 7$
	$9 - 3 = \underline{\quad}$
	$9 - 4 = \underline{\quad}$
	$9 - 5 = \underline{\quad}$
	$9 - 6 = \underline{\quad}$
	$9 - 7 = \underline{\quad}$
	$9 - 8 = \underline{\quad}$
	$9 - 9 = \underline{\quad}$

Cross (×) out and fill in the blanks .



$10 - 0 = 10$

$10 - 1 = 9$

$10 - 2 = \underline{\quad}$

$10 - 3 = \underline{\quad}$

$10 - 4 = \underline{\quad}$

$10 - 5 = \underline{\quad}$

$10 - 6 = \underline{\quad}$

$10 - 7 = \underline{\quad}$

$10 - 8 = \underline{\quad}$

$10 - 9 = \underline{\quad}$

$10 - 10 = \underline{\quad}$



Exercise 3.9

1. Fill correct numbers in the boxes.

$3 - 3 = \boxed{\quad}$

$6 - 4 = \boxed{\quad}$

$5 - 1 = \boxed{\quad}$

$4 - 3 = \boxed{\quad}$

$2 - 1 = \boxed{\quad}$

$3 - 2 = \boxed{\quad}$

$4 - 2 = \boxed{\quad}$

$4 - 1 = \boxed{\quad}$

$7 - 5 = \boxed{\quad}$

$5 - 3 = \boxed{\quad}$

$7 - 1 = \boxed{\quad}$

$6 - 5 = \boxed{\quad}$

$5 - 5 = \boxed{\quad}$

$9 - 5 = \boxed{\quad}$

$7 - 3 = \boxed{\quad}$

$8 - 6 = \boxed{\quad}$

$8 - 1 = \boxed{\quad}$

$7 - 2 = \boxed{\quad}$



2. Tick (✓) the correct option.

a. $9 - 2 =$

(i) 3 ☐

(ii) 5 ☐

(iii) 7 ☐

(iv) 1 ☐

b. $8 - 5 =$

(i) 4 ☐

(ii) 6 ☐

(iii) 0 ☐

(iv) 3 ☐

c. $5 - 5 =$

(i) 0 ☐

(ii) 5 ☐

(iii) 1 ☐

(iv) 8 ☐

d. $7 - 6 =$

(i) 8 ☐

(ii) 6 ☐

(iii) 1 ☐

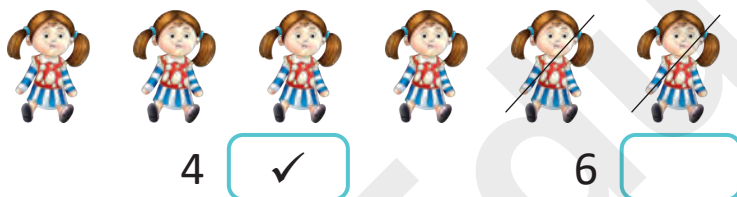
(iv) 7 ☐



Exercise 3.10

Solve and tick (✓) the right answer. One has been done for you.

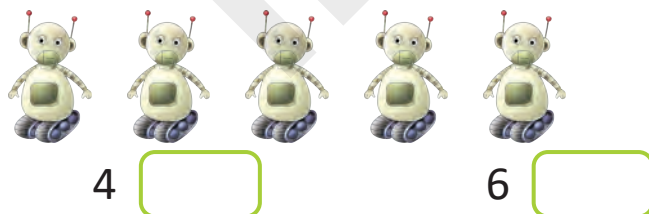
1. How many dolls does she have now?



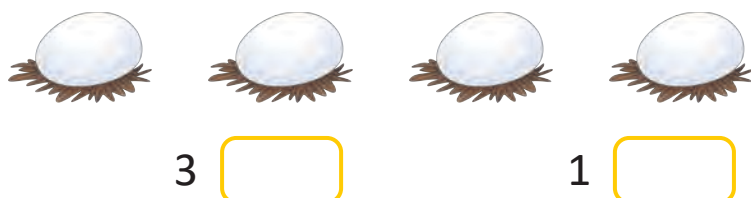
Problem Solving

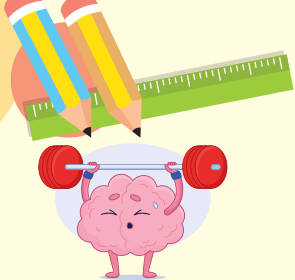
6
2
4

2. Aman buys 5 toys. He gives 1 toy to his brother. How many toys are left with him?



3. Dinesh has 6 eggs. 5 of them are broken. How many eggs are left with him?





Gap Analyzer..

1. Tick (✓) the correct answer.

(a) $1 + 4 + 5 =$

(i) 8

☐

(ii) 9

☐

(iii) 10

☐

(b) $16 - 5 =$

(i) 10

☐

(ii) 12

☐

(iii) 11

☐

(c) Add:  + 

(i) 9

☐

(ii) 12

☐

(iii) 11

☐

(d) Subtract:  - 

(i) 14

☐

(ii) 12

☐

(iii) 16

☐

2. Fill in the blanks.

(a) $4 + 4 + 2 =$

(c) $3 + 5 + 4 =$

(b) $18 - 6 =$

(d) $13 - 9 =$

(e)  +  =

(f)  =

3. Match the following:

(a) $0 + 3$

(i) 6

(b) $6 - 0$

(ii) 3

(c) $0 + 5$

(iii) 4

(d) $4 - 0$

(iv) 5



Math Puzzle



Critical Thinking

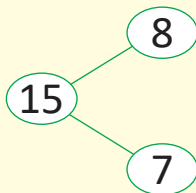
Fill in the following addition tables :

+	1	2	3	4
1	2			
2		4		
3			6	
4				8



Mental Math

Find $15 - 8$



$8 + 7 = \boxed{}$

$7 + 8 = \boxed{}$

$15 - 7 = \boxed{}$

$15 - 8 = \boxed{}$



Problem Solving

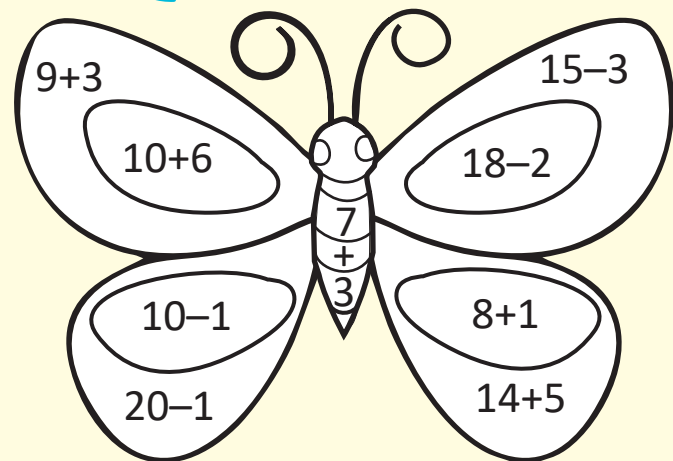


Fun Time Activity

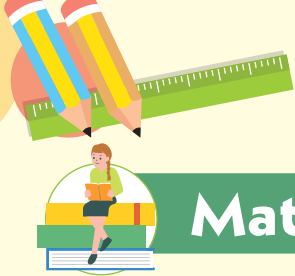


Art-integrated Learning

Solve the calculations to colour in spring picture.



Answer	16	9	12	10	19
Colour	Yellow	Blue	Green	Brown	Red



Maths Lab Activity



Creavity and Inno vaon

Learning objective: Understanding basic subtraction.

Materials required: Cards with subtraction facts and their answers.

$10 - 5 =$

5

$15 - 5 =$

10

$9 - 5 =$

4

$17 - 8 =$

9

Procedure:

1. This activity will be done in pairs.
2. Mix all the cards and lay them on the table upside down.
3. The entire class, divided into pairs, sits around the table.
4. One pair will flip two cards. If they match, then you get a second chance, e.g., if you have flipped $10 - 5 =$ and 5 cards. They match.
5. If the flipped cards do not match, then you return them to their original positions and your partner will take his/her turn.
6. All the pairs will flip the cards and try to match them.
7. The activity will continue till all the cards on the table have been flipped and matched.
8. The pair with the maximum number of cards will be declared as winner.



There are 12 sweets : 4 chocolates, 3 jellies, and 5 mints. Ranju cannot eat chocolates, Sunny does not like mints, and Anamika likes all of these. Distribute the sweets equally between the three, so that each one gets an equal number and also the ones they like.

