U.S. EDITION

PRIMARY MATHEMATICS 1A

TEXTBOOK

Marshall Cavendish Education

SingaporeMath.com Inc

PRIMARY MATHEMATICS 1A

TEXTBOOK

SingaporeMath.com Inc

Marshall Cavendish Education

Original edition published under the title Primary Mathematics 1A

Times Media Private Limited
A member of Times Publishing Limited
Times Centre, 1 New Industrial Road, Singapore 536196
Customer Service Hotline: (65) 6213 9106
E-mail: fps@sg.marshallcavendish.com
Website: www.marshallcavendish.com/education/sg

Distributed by
SingaporeMath.com Inc
404 Beavercreek Road #225
Oregon City, OR 97045
U.S.A.
Website: http://www.singaporemath.com

First published 2003
Second impression 2003
Reprinted 2004
Third impression 2004
Fourth impression 2005

ISBN 981-01-8494-8

Printed in Singapore by C.O.S. Printers Pte Ltd

ACKNOWLEDGEMENTS

The project team would like to record their thanks to the following:

- members of the Primary Mathematics Team who developed the first edition and second edition of the package
- members of the Steering Committee for the second edition of the package
- teachers who tested the materials in the package and provided useful insights and suggestions
- Educational Technology Division, for the design and production of the audio-visual components of the package
- all those who have helped in one way or another in the development and production of the package

Our special thanks to Richard Askey, Professor of Mathematics (University of Wisconsin, Madison), Yoram Sagher, Professor of Mathematics (University of Illinois, Chicago), and Madge Goldman, President (Gabriella and Paul Rosenbaum Foundation), for their indispensable advice and suggestions in the production of Primary Mathematics (U.S. Edition).

PREFACE

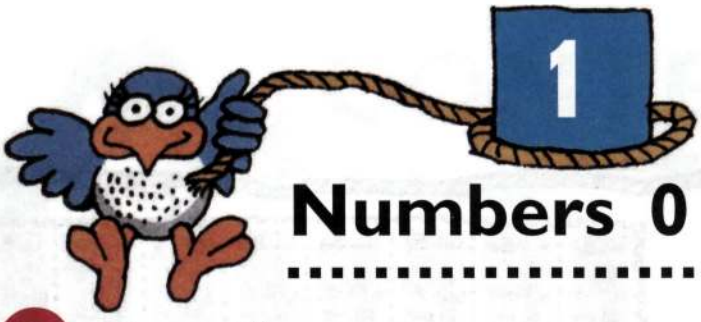
Primary Mathematics (U.S. Edition) comprises textbooks and workbooks. The main feature of this package is the use of the **Concrete** ➡ **Pictorial** ➡ **Abstract** approach. The students are provided with the necessary learning experiences beginning with the concrete and pictorial stages, followed by the abstract stage to enable them to learn mathematics meaningfully. This package encourages active thinking processes, communication of mathematical ideas and problem solving.

This textbook is accompanied by one workbook. It comprises 9 units. Each unit is divided into parts: 1, 2, . . . Each part starts with a meaningful situation for communication and is followed by specific learning tasks numbered 1, 2, . . . The sign Workbook Exercise is used to link the textbook to the workbook exercises.

Practice exercises are designed to provide the students with further practice after they have done the relevant workbook exercises. Review exercises are provided for cumulative reviews of concepts and skills. All the practice exercises and review exercises are optional exercises.

The color patch ■ is used to invite active participation from the students and to faciliate oral discussion. The students are advised not to write on the color patches.

CONTENTS



Numbers 0 to 10

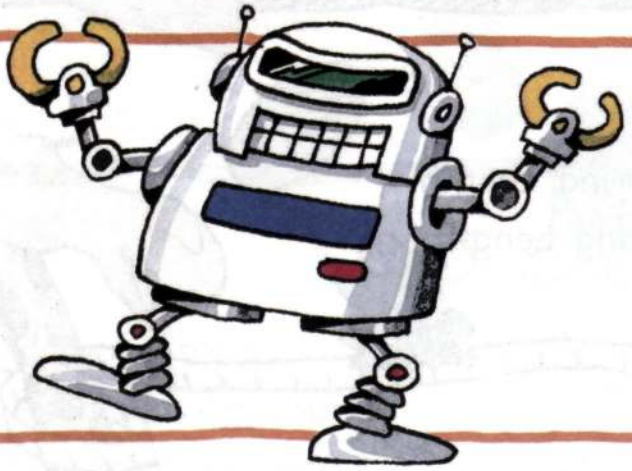
1 Counting

0

zero

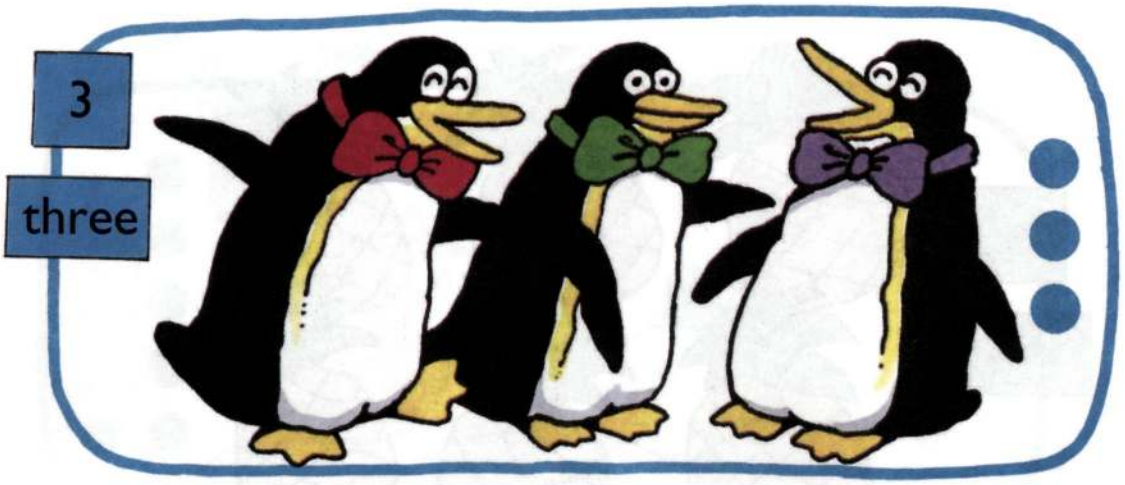
1

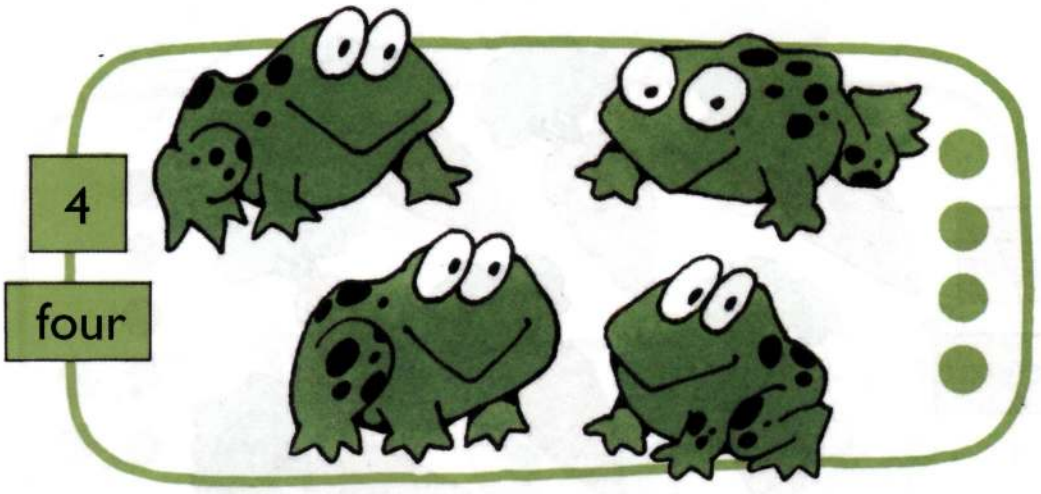
one

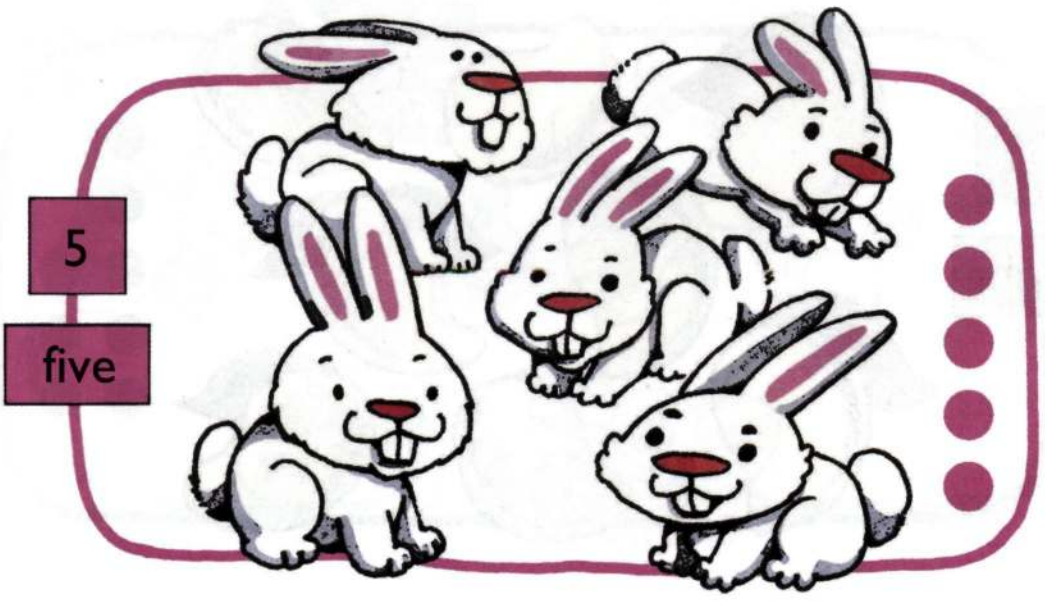


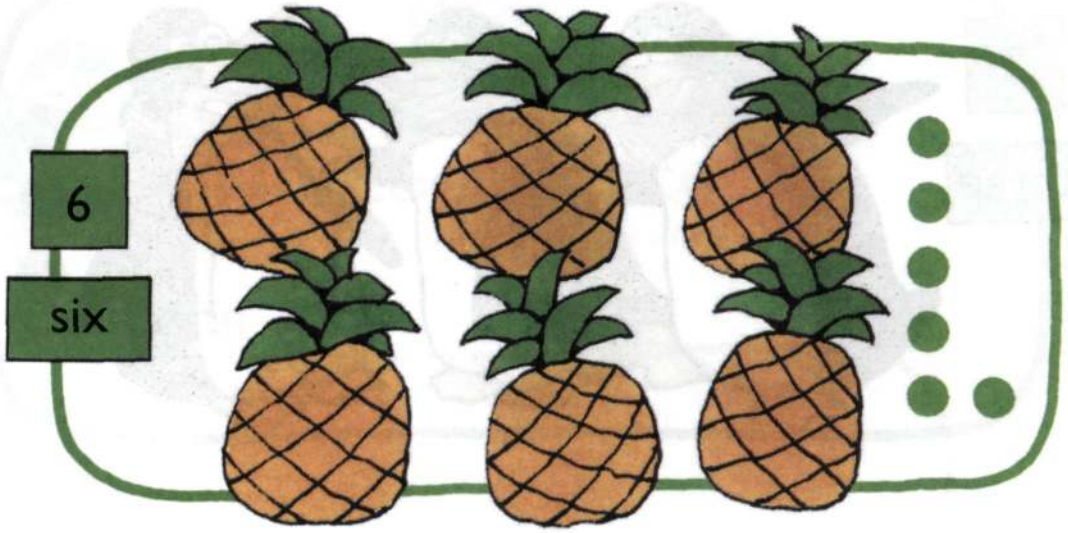
2

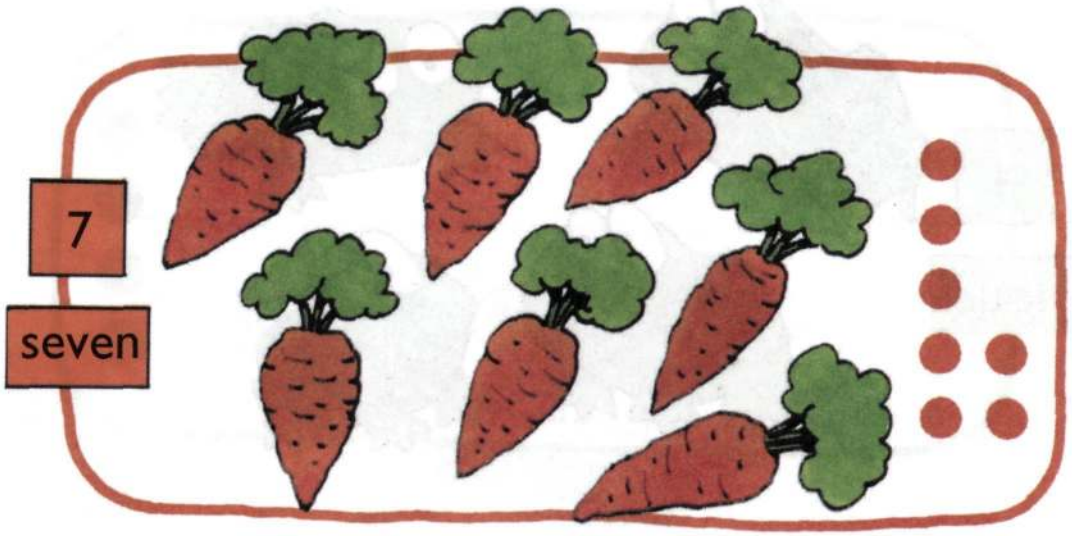
two

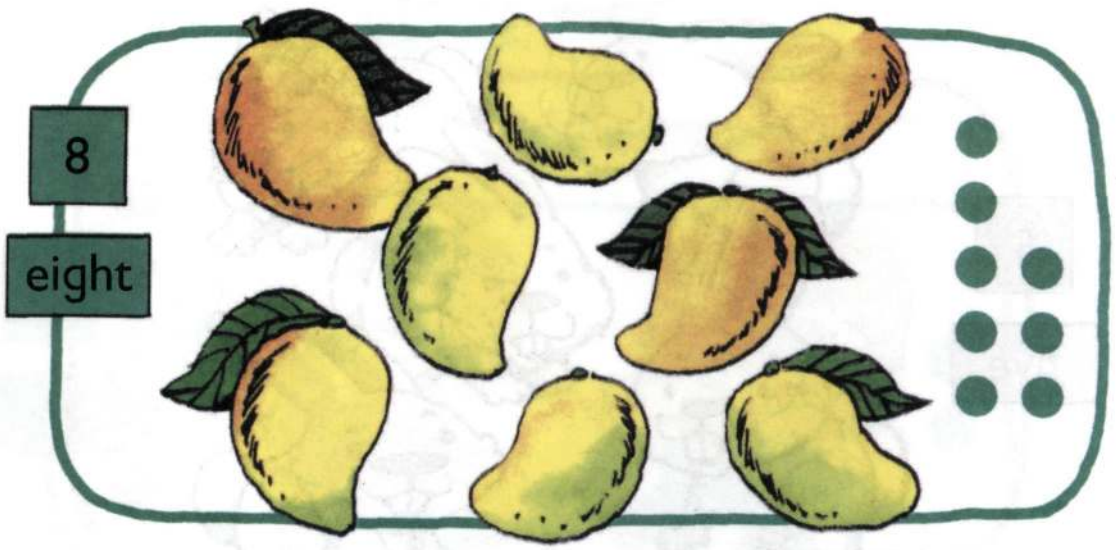

3
three

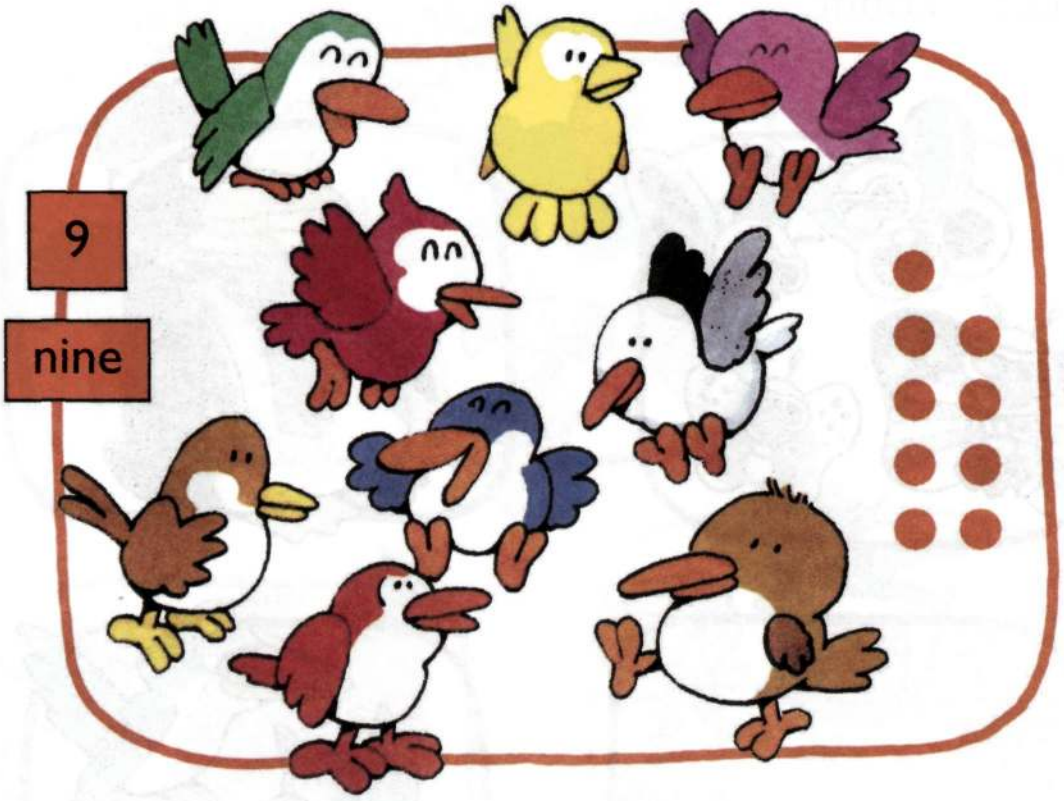

4
four


5
five


6
six

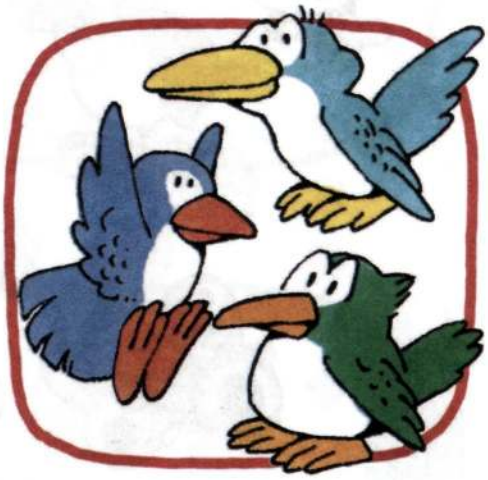

7
seven

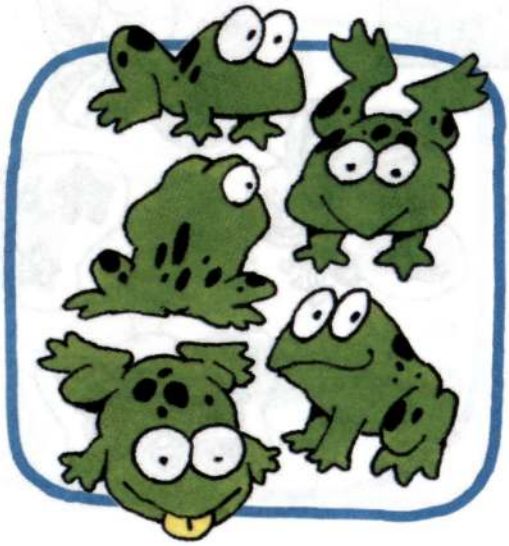

8
eight

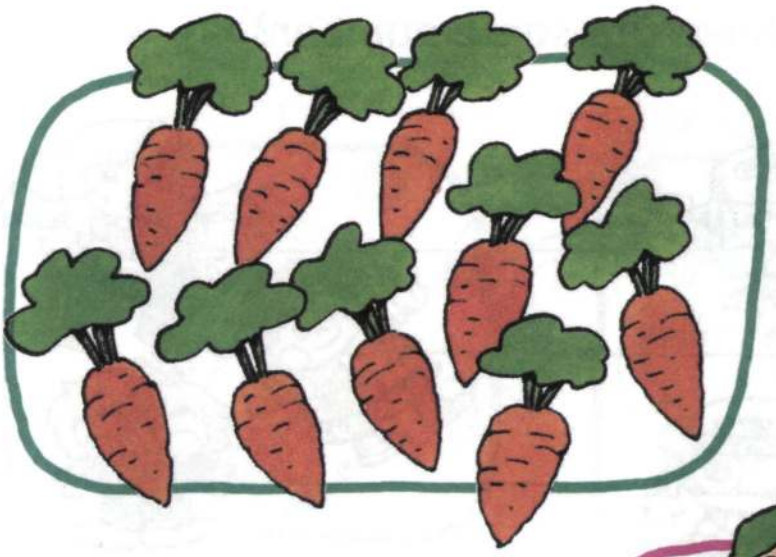

9
nine

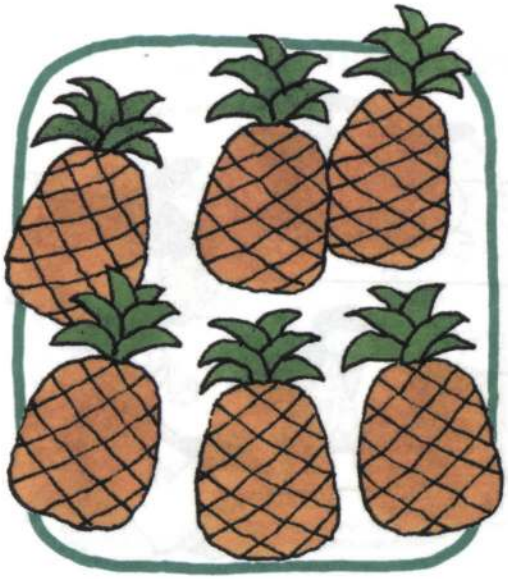

10
ten

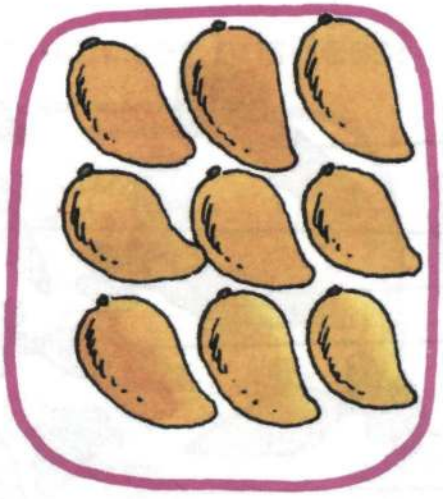
1. Let's count.

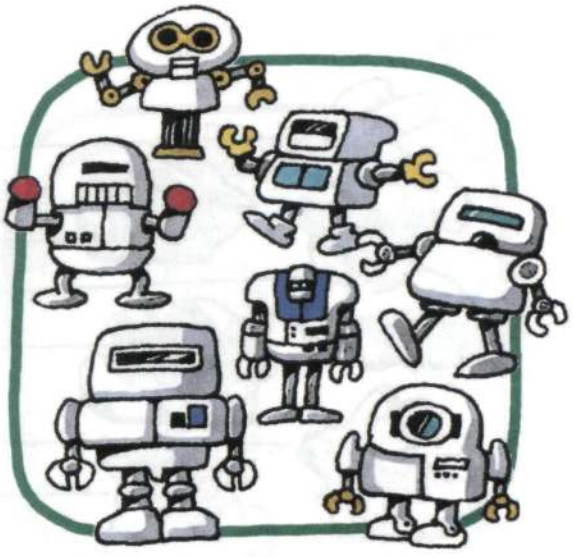








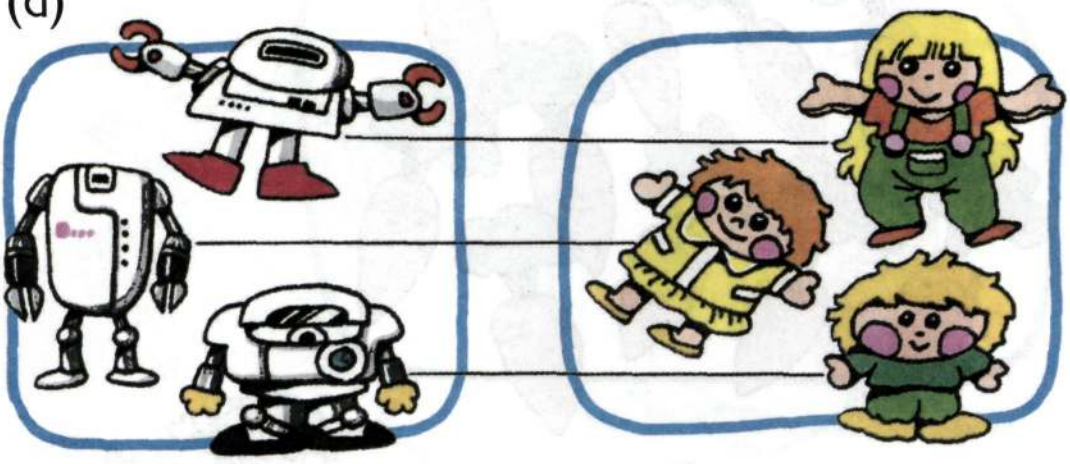




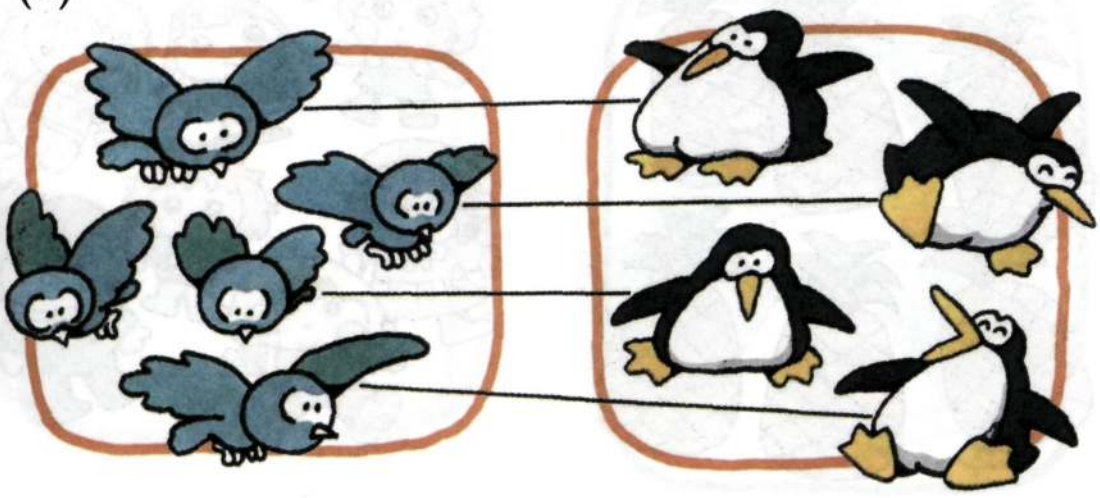
Workbook Exercises 1 & 2

2. Do the sets have the same number?

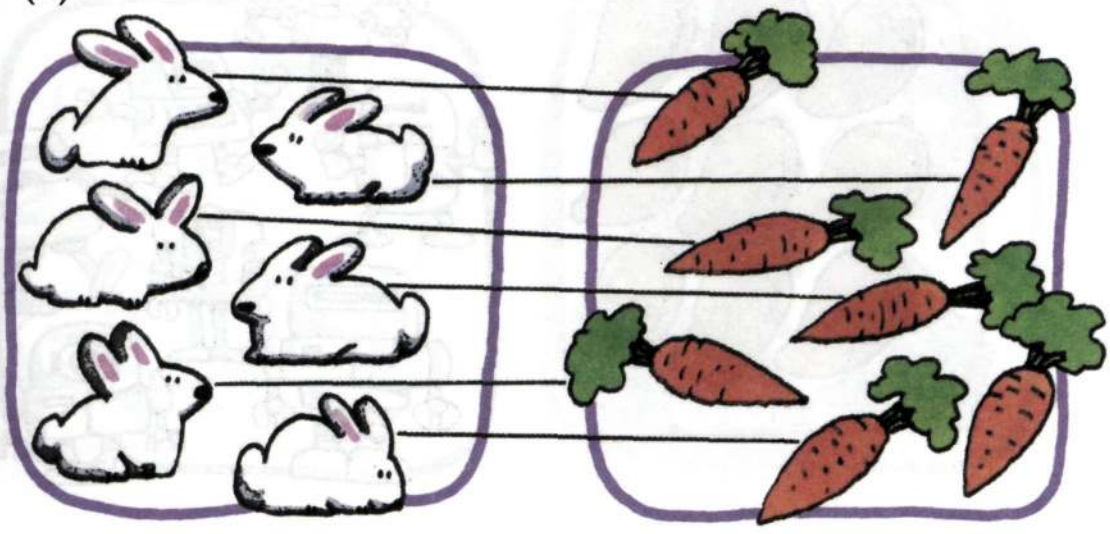
(a)



(b)

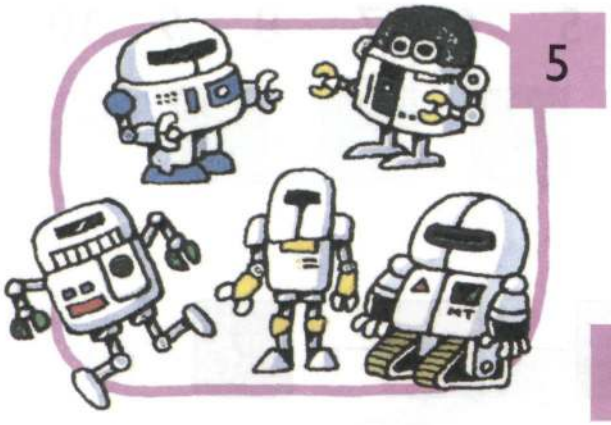


(c)

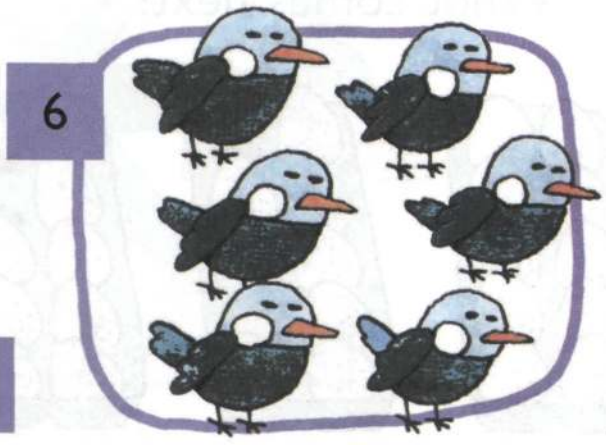


3. How many butterflies are there?

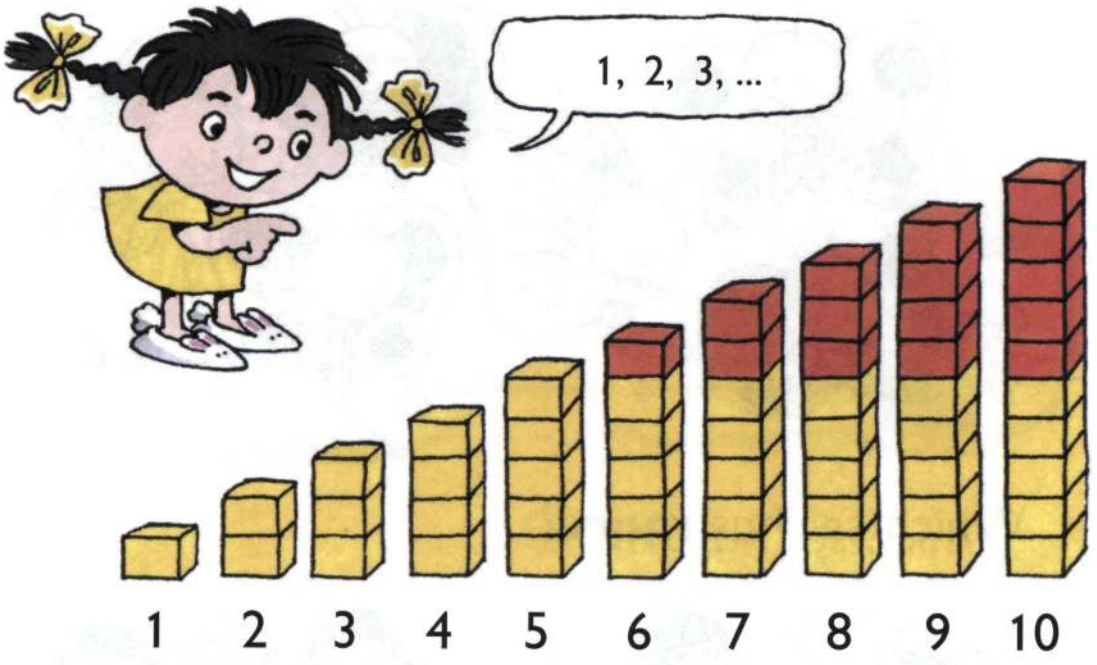
4. Which set has **more**?



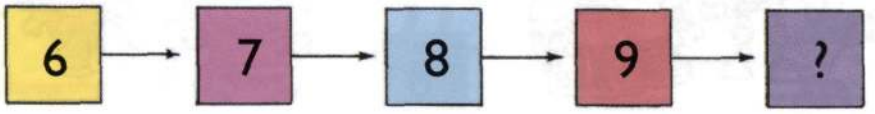
5. Which set has **less**?



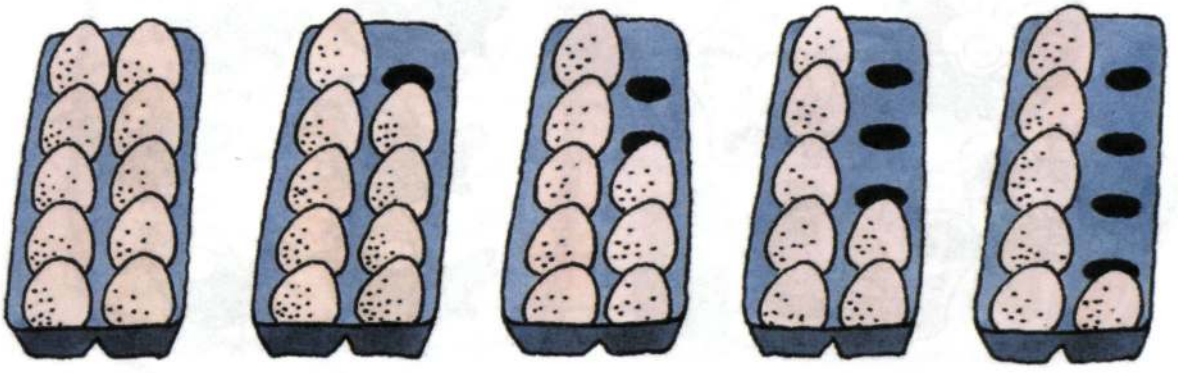
6. Count from 1 to 10.



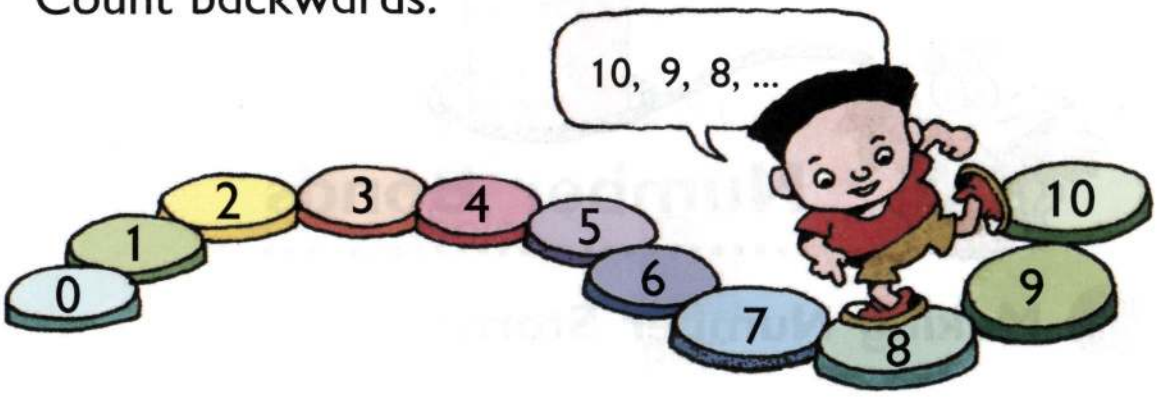
7. What comes next?



8. What comes next?



9. Count backwards.



10. What are the missing numbers?

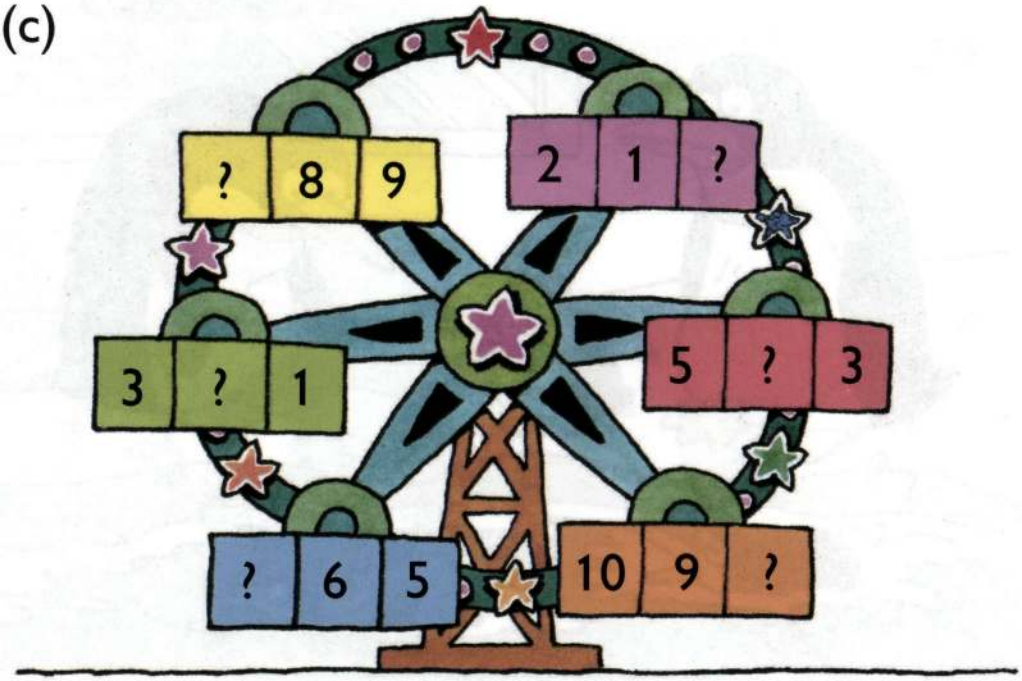
(a)

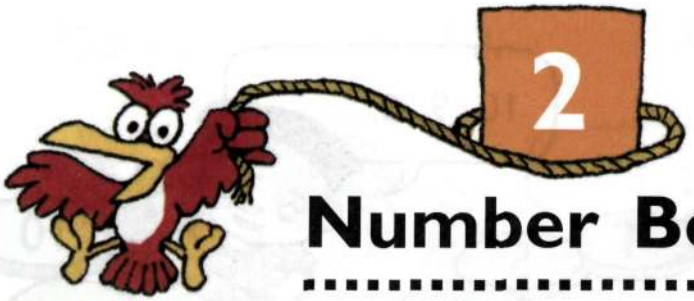
4	5	6	?	?	9	?

(b)

9	8	7	?	5	?	?

(c)

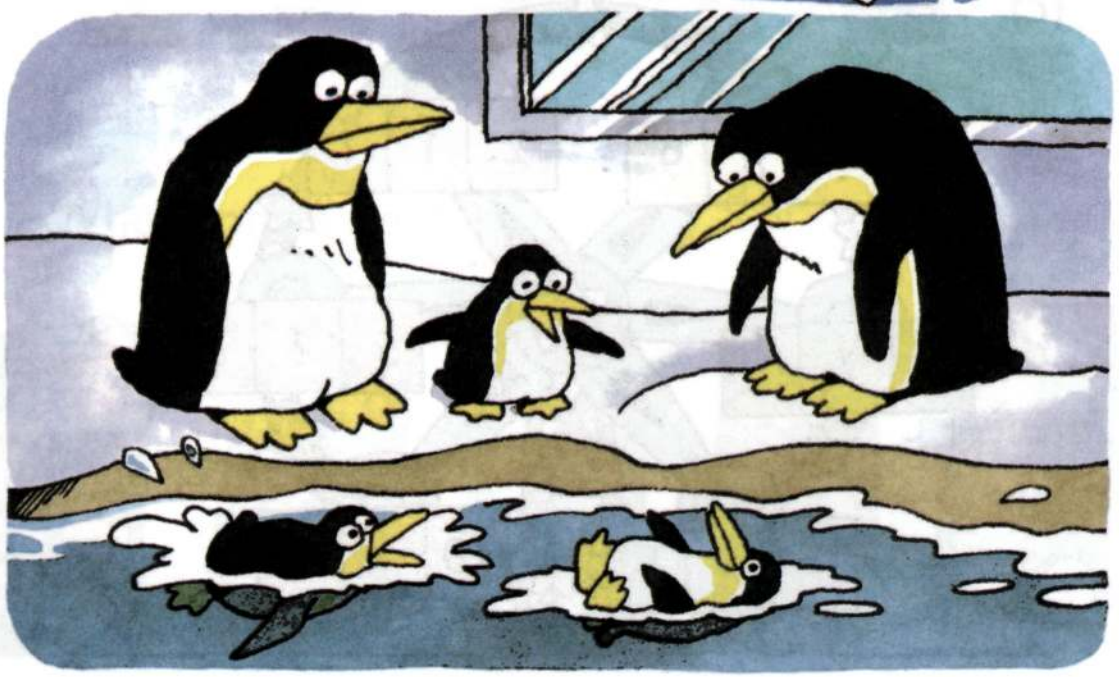


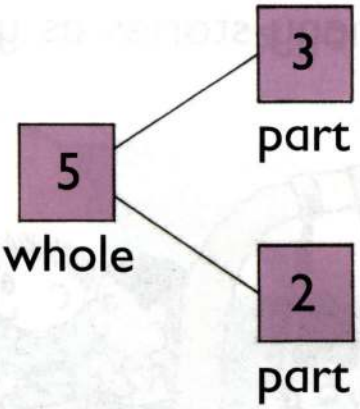


2 Number Bonds

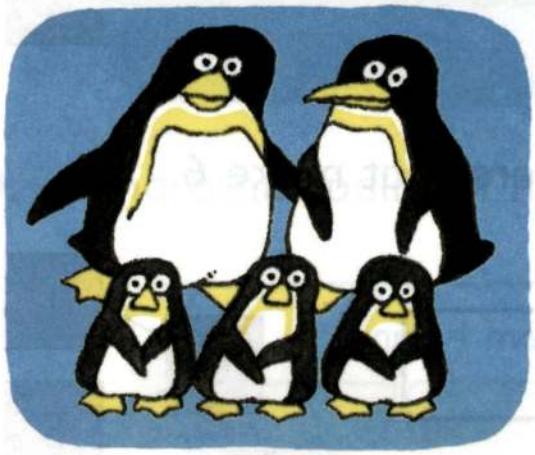
1 Making Number Stories

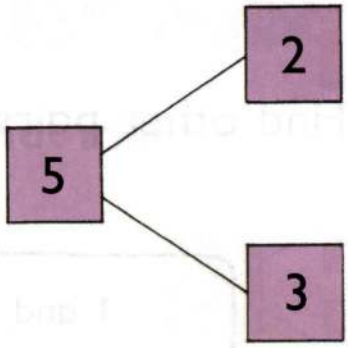
There are 5 penguins.
2 are swimming.
3 are not swimming.

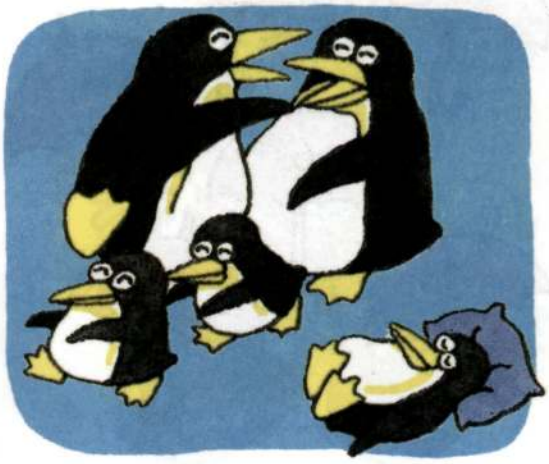


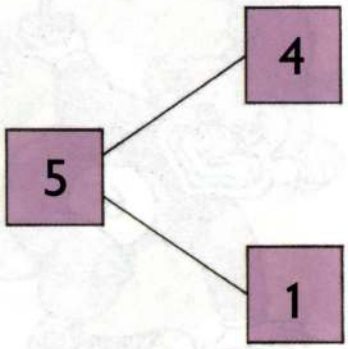


Make up other stories of 5 about the penguins.



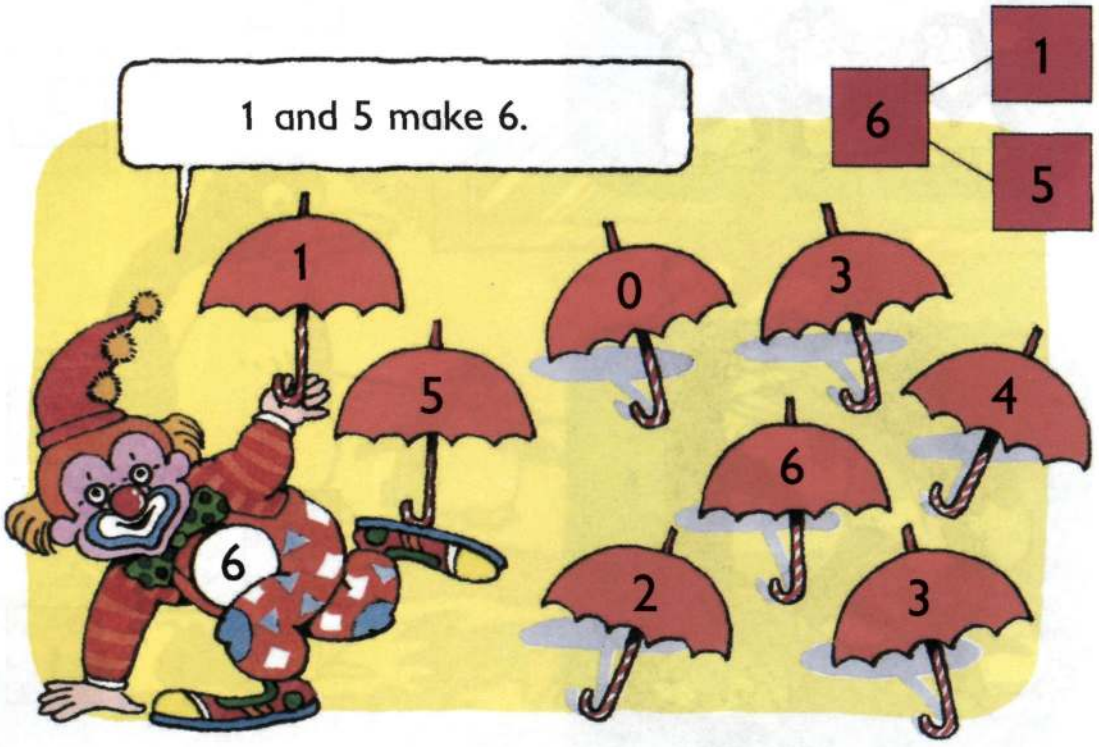






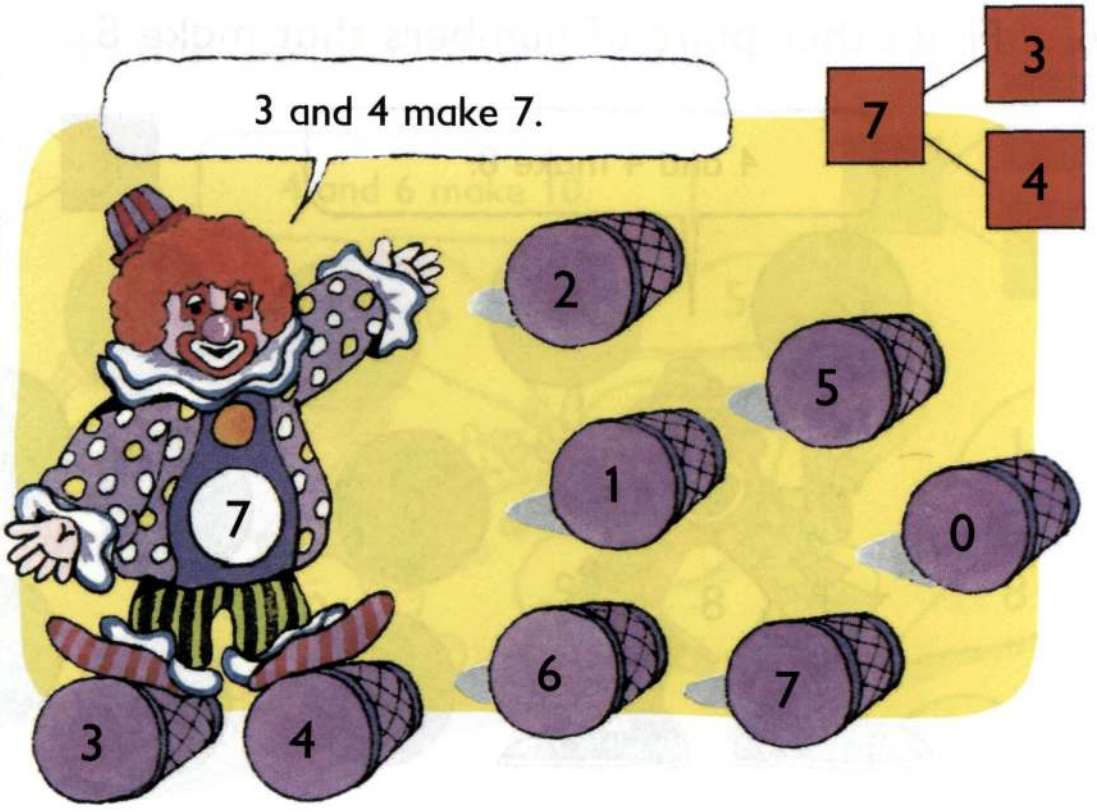
1. Make up as many stories as you can about the 6 children.

2. Find other pairs of numbers that make 6.

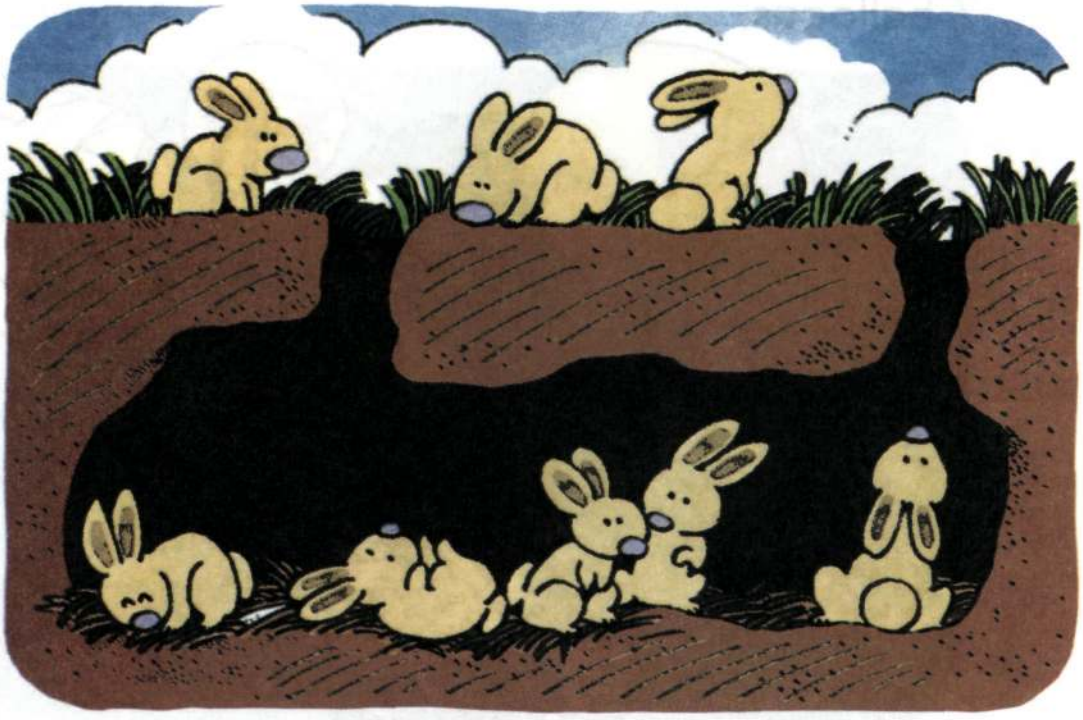


3. Make up as many stories as you can about the 7 balloons.

4. Find other pairs of numbers that make 7.

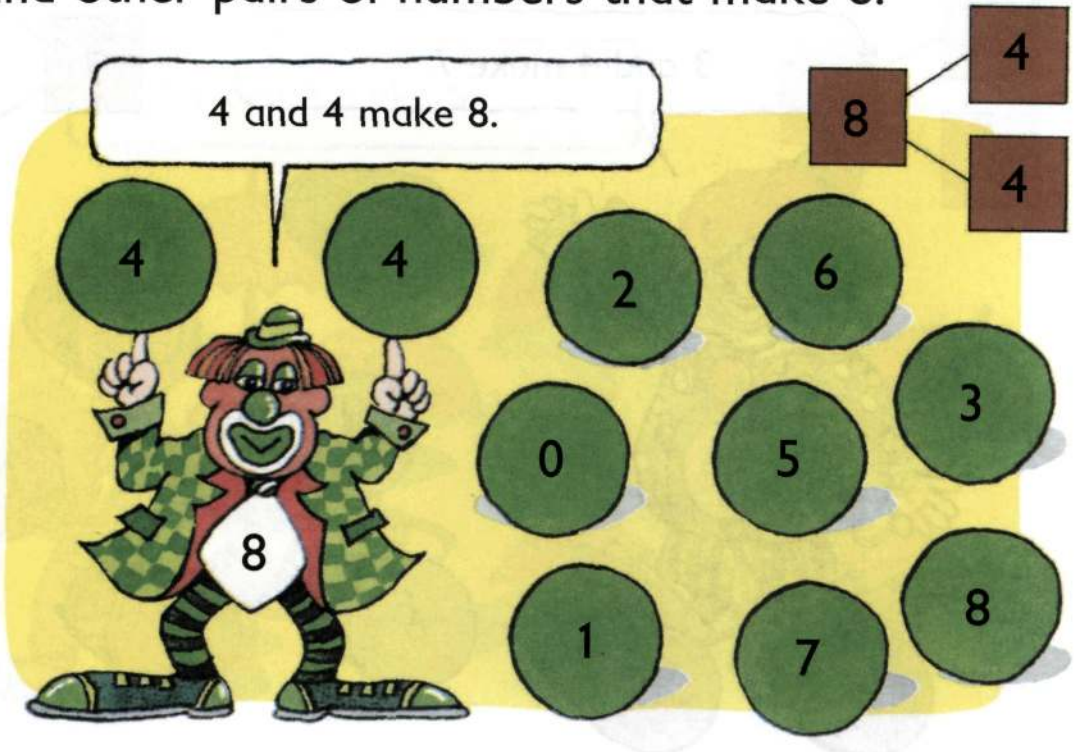


5. (a) Make up a story of 8 from the picture.

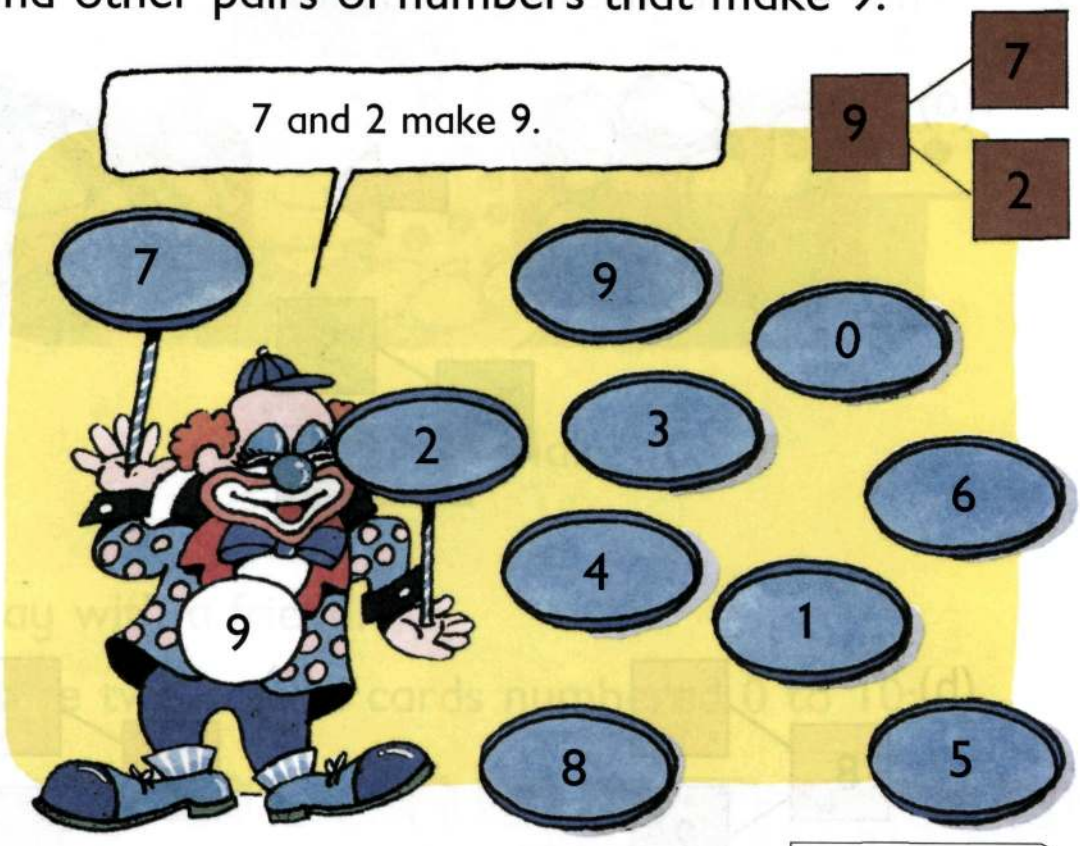


(b) Tell other stories of 8.

6. Find other pairs of numbers that make 8.

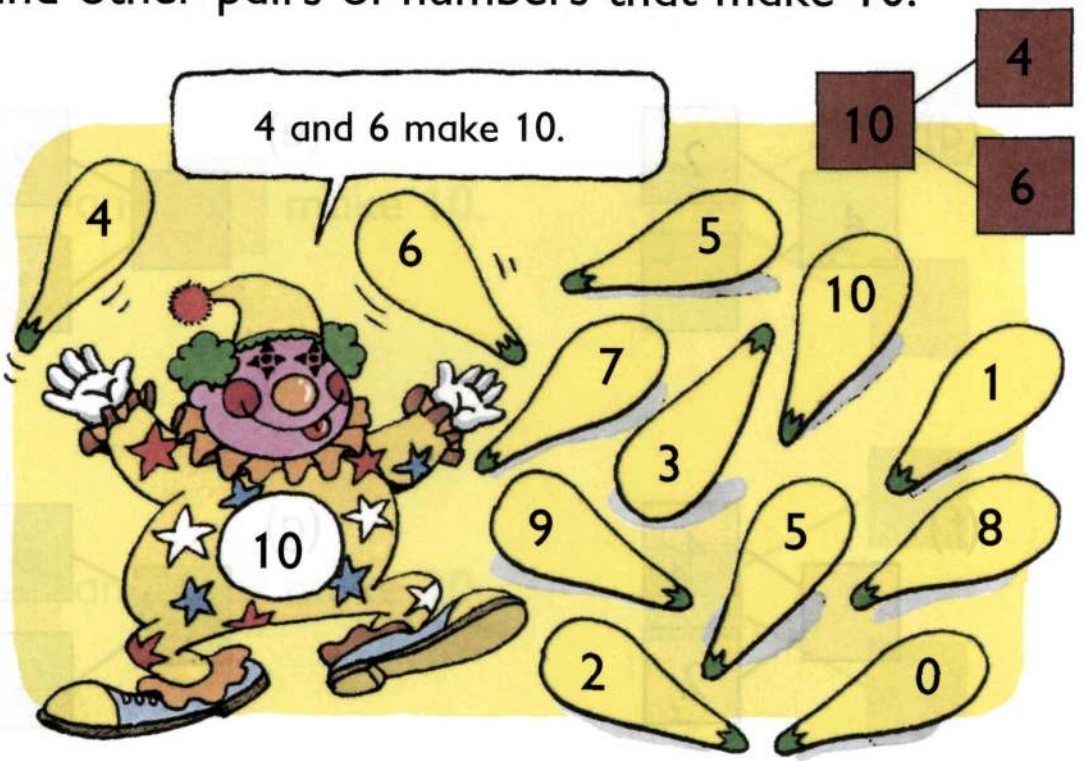


7. Find other pairs of numbers that make 9.



Workbook Exercise 8

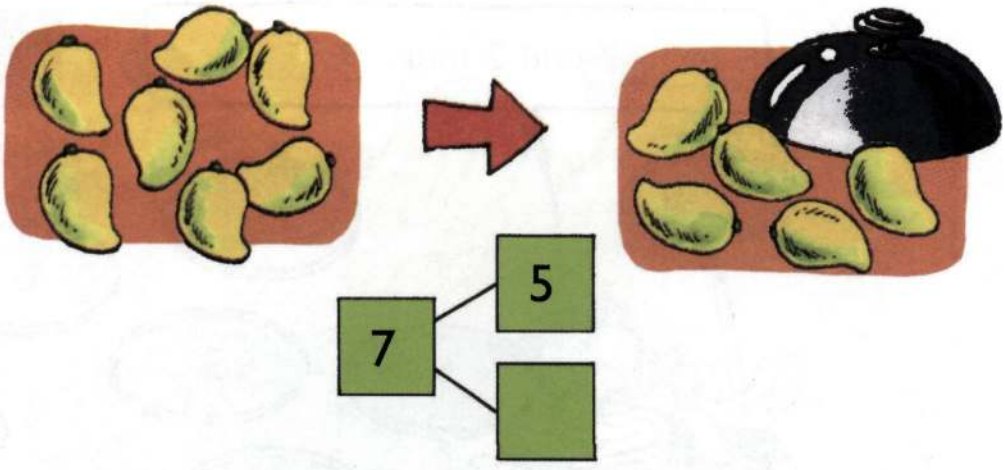
8. Find other pairs of numbers that make 10.



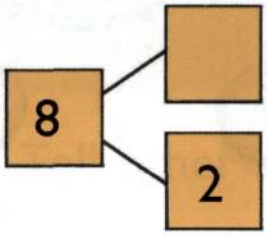
Workbook Exercise 9

9. What are the missing numbers?

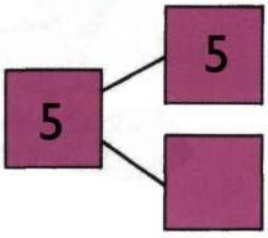
(a)



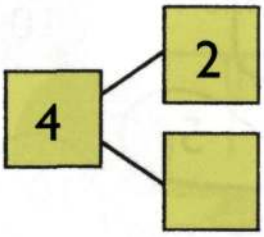
(b)



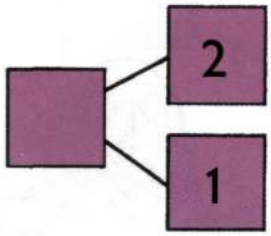
(c)



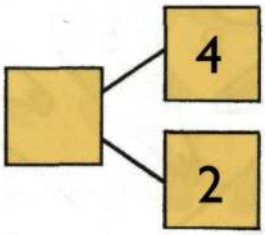
(d)



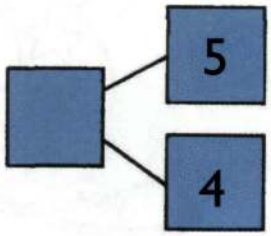
(e)



(f)



(g)



10.

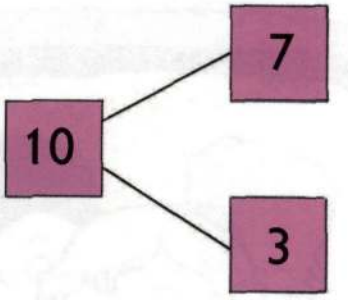
6 and ☐ make 10.

11. Play with a friend.

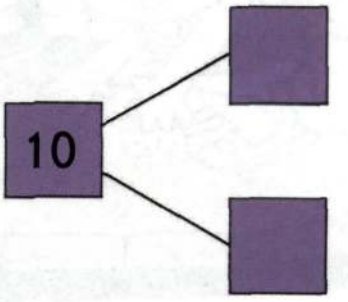
Make two sets of cards numbered 0 to 10:

Use the cards to make as many tens as you can.

7 and 3 make 10.

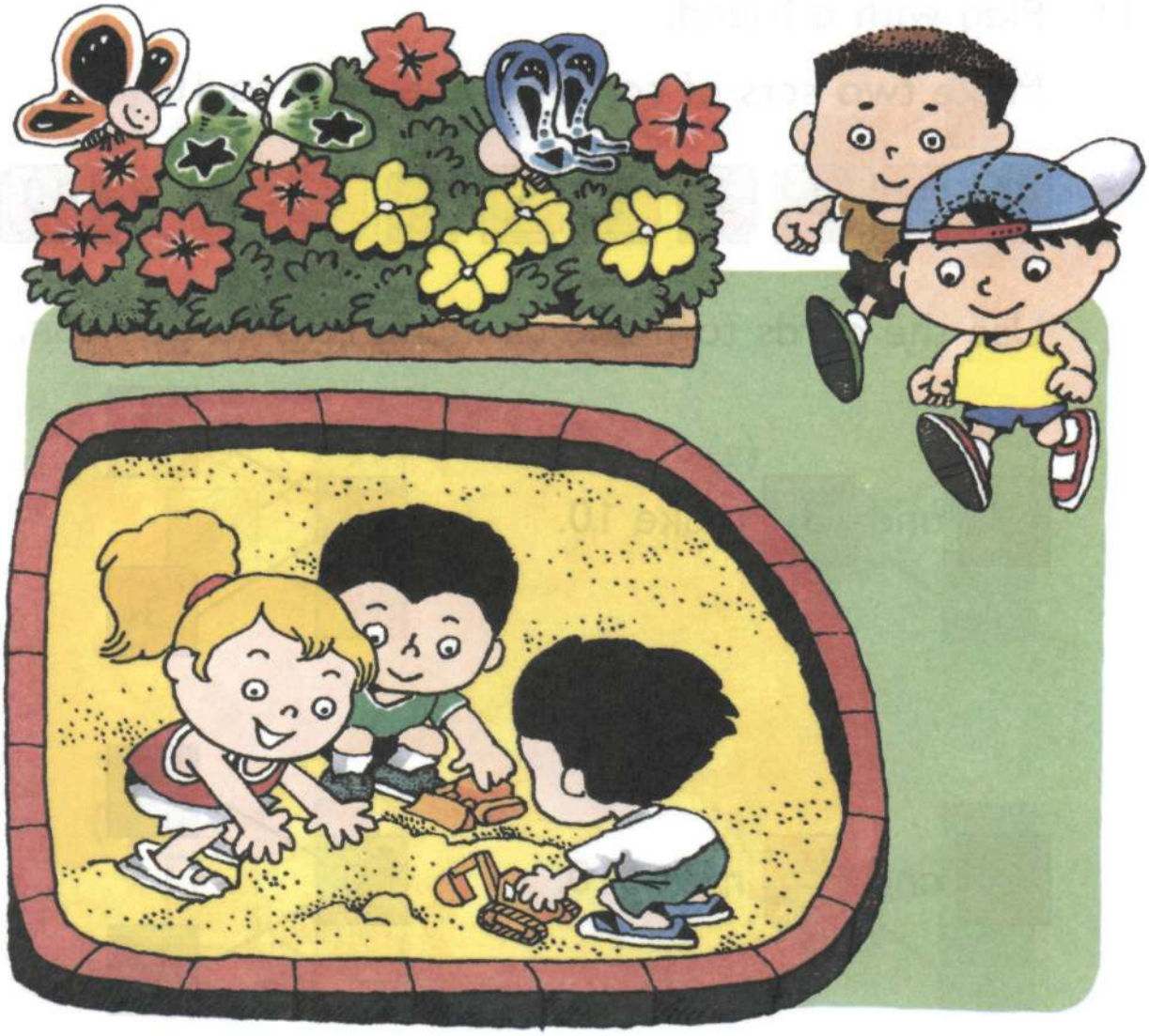


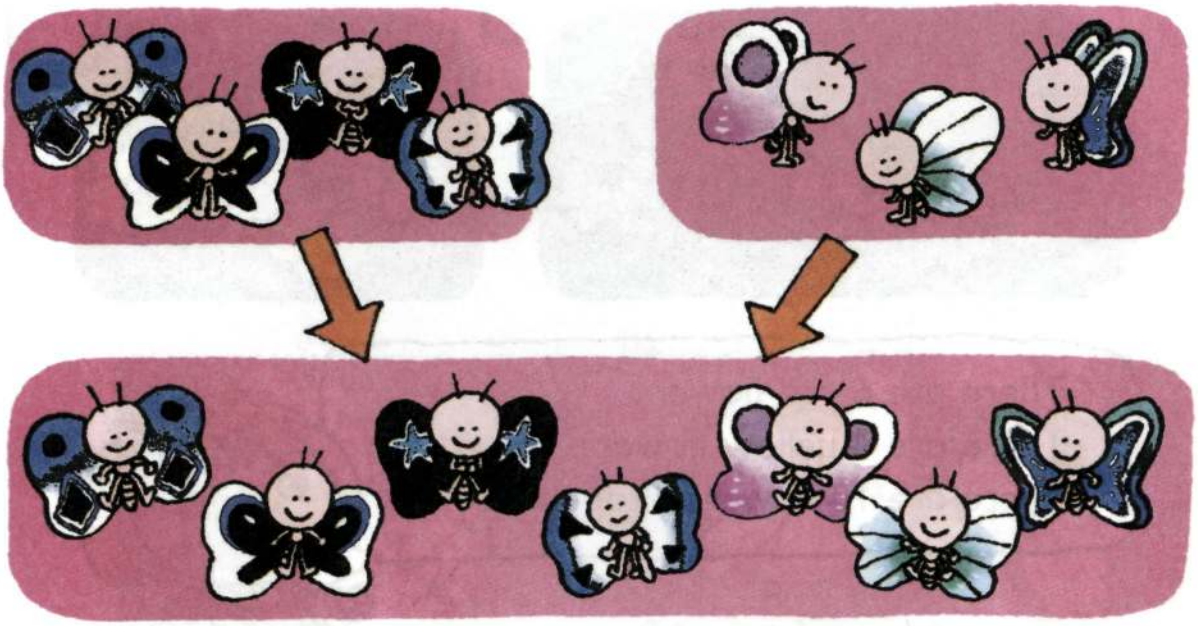
☐ and ☐ make 10.

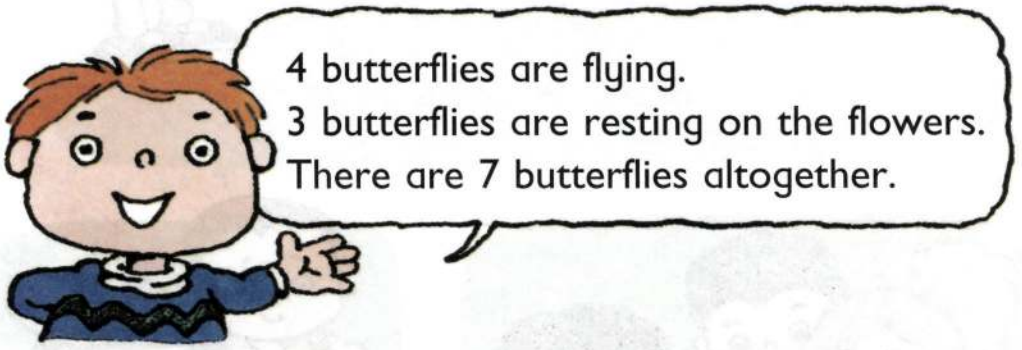


3 Addition

1 Making Addition Stories

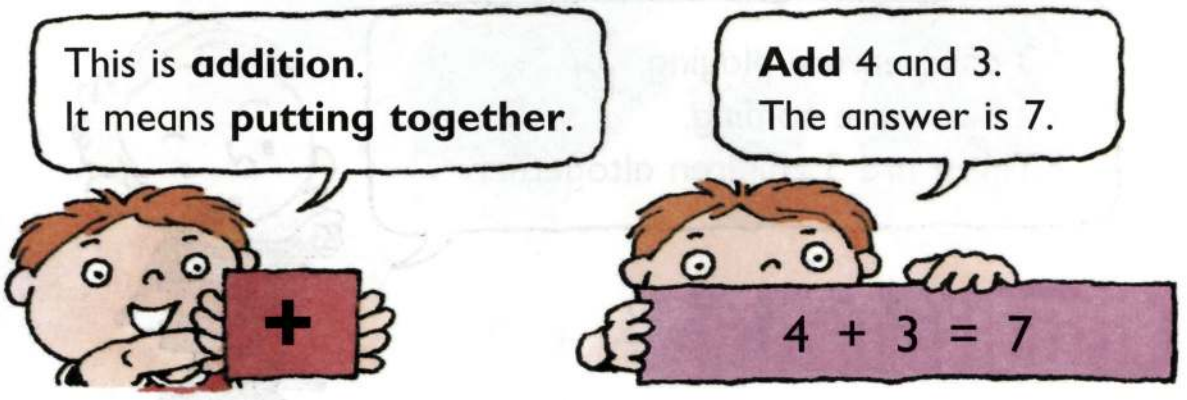


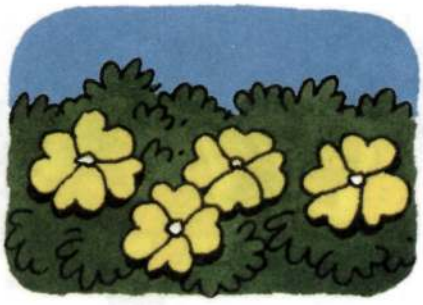




We write the number sentence:

4 + 3 = 7





There are 6 red flowers.
There are 4 yellow flowers.
There are 10 flowers altogether.

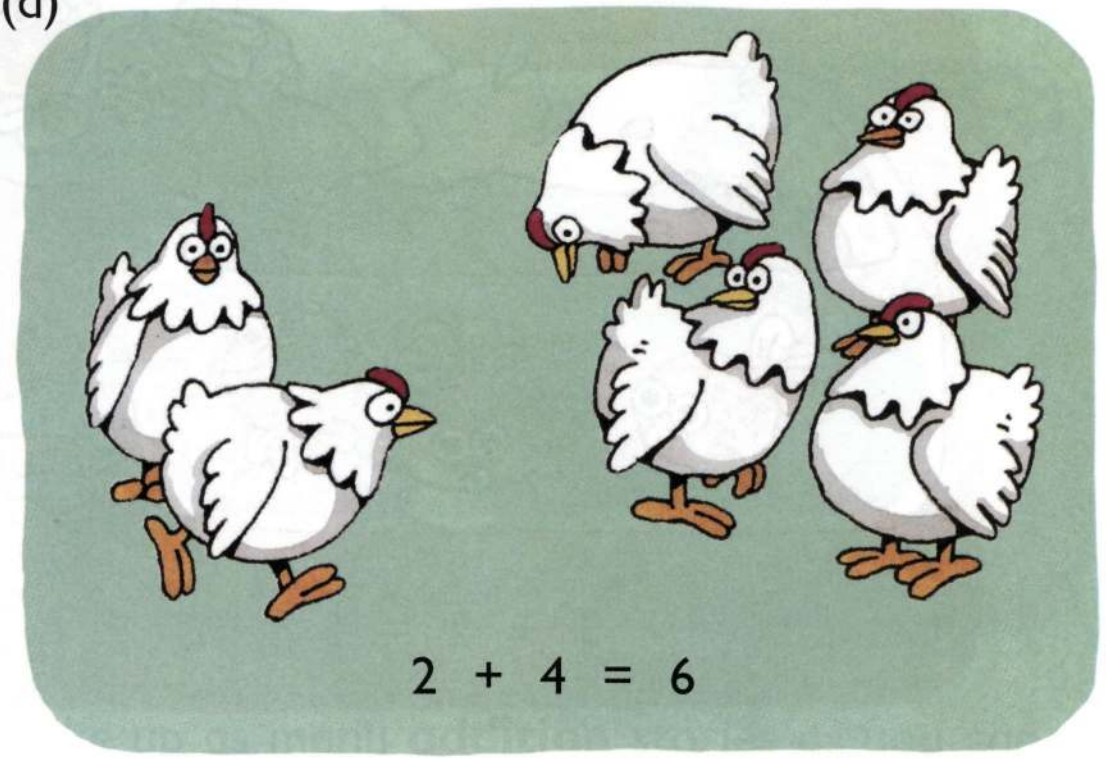
$$6 + 4 = 10$$

3 children are playing.
2 more are coming.
There are 5 children altogether.

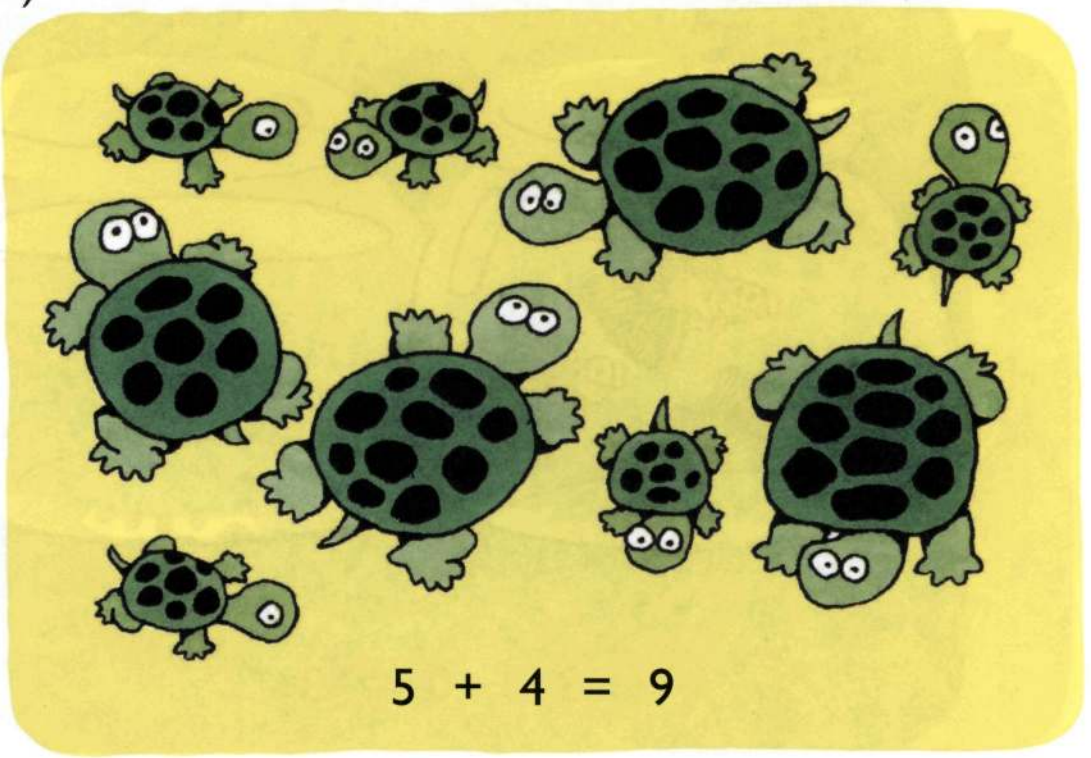
$$3 + 2 = 5$$

1. Make up a story for each number sentence.

(a)



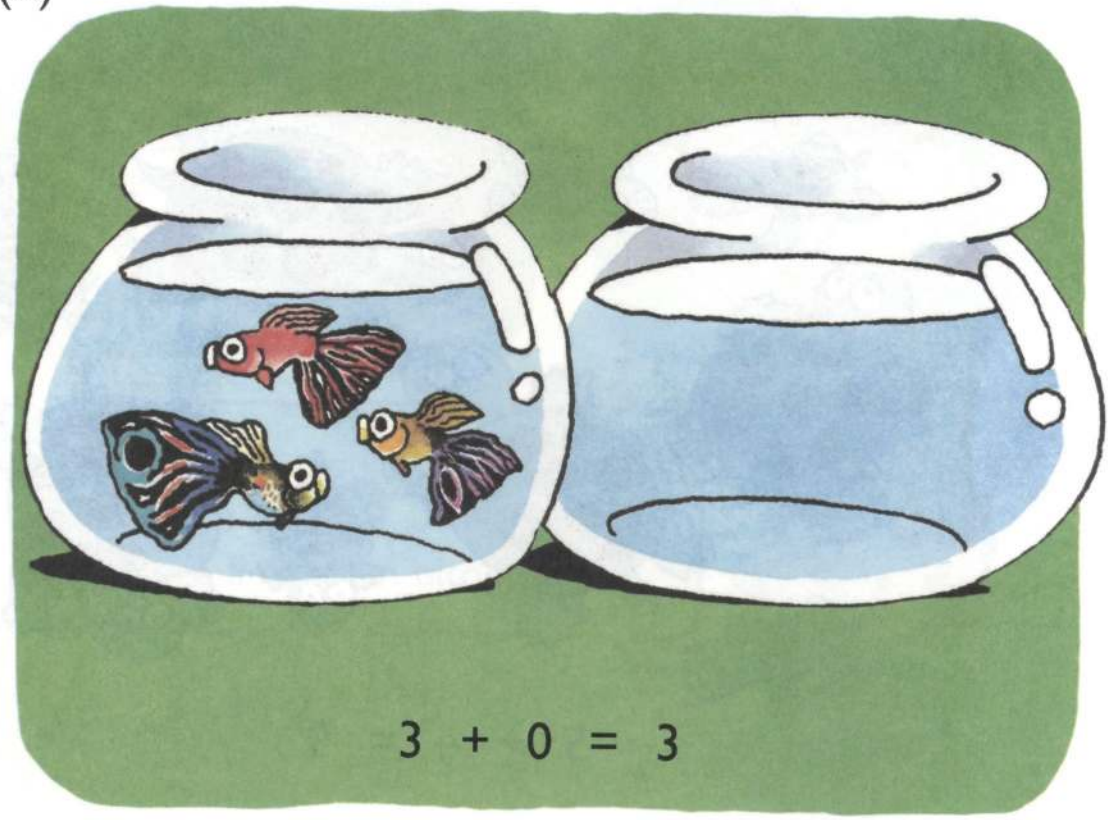
(b)



(c)

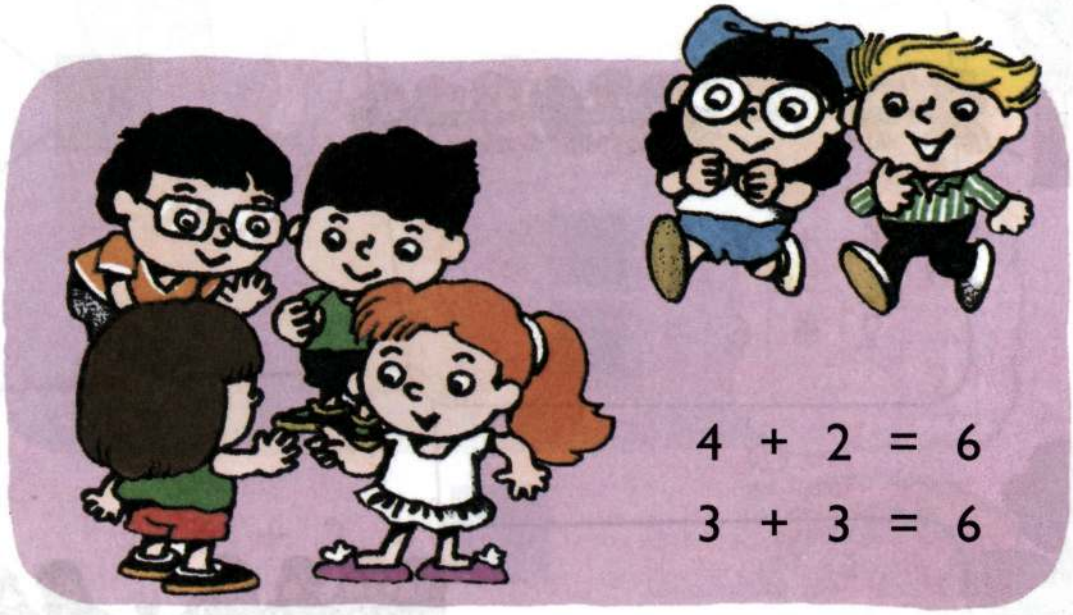
3 + 2 = 5

(d)

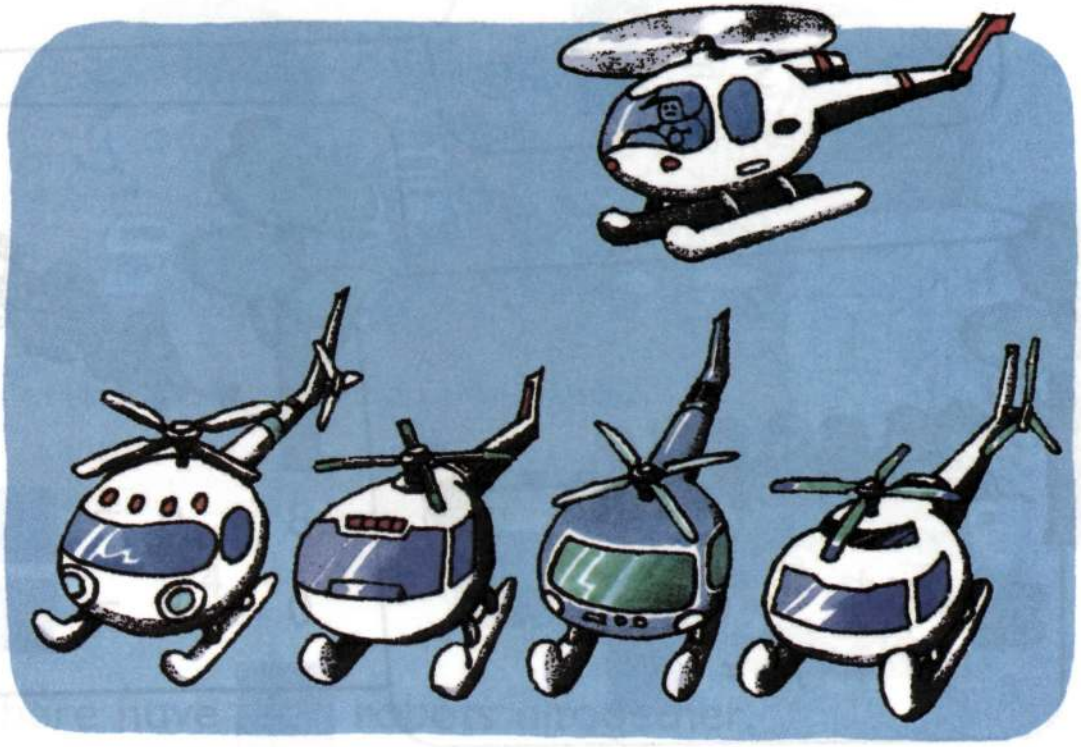


3 + 0 = 3

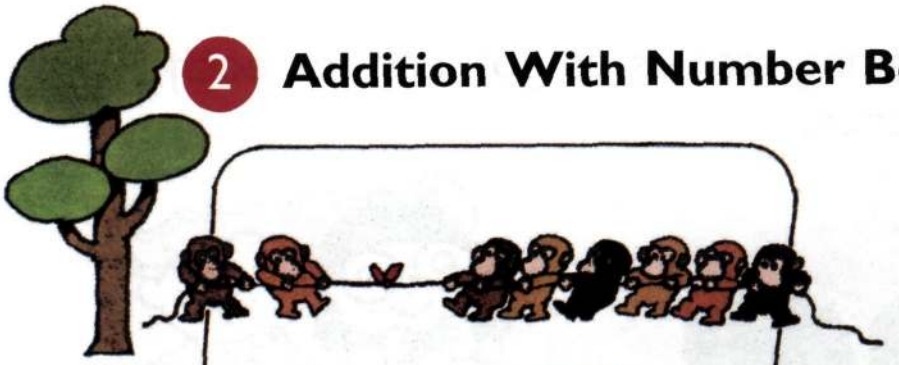
2. Make up as many stories as you can for each number sentence.



3. Make up as many **addition** stories as you can. Write a number sentence for each story.

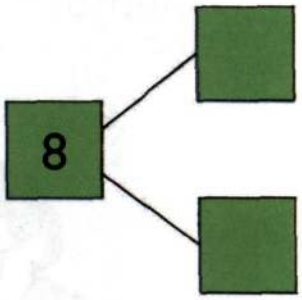


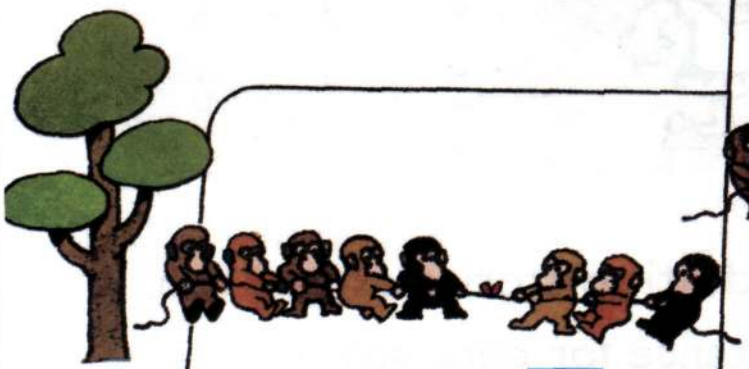
2 Addition With Number Bonds



6 + 2 = ☐

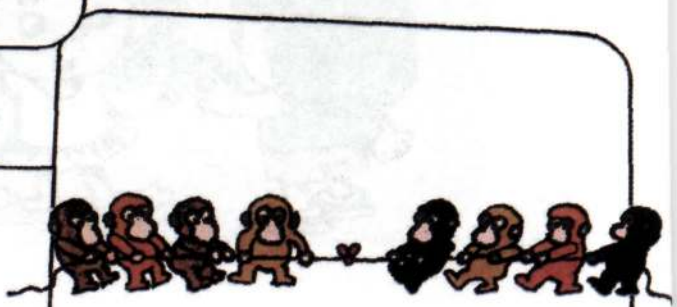
2 + 6 = ☐



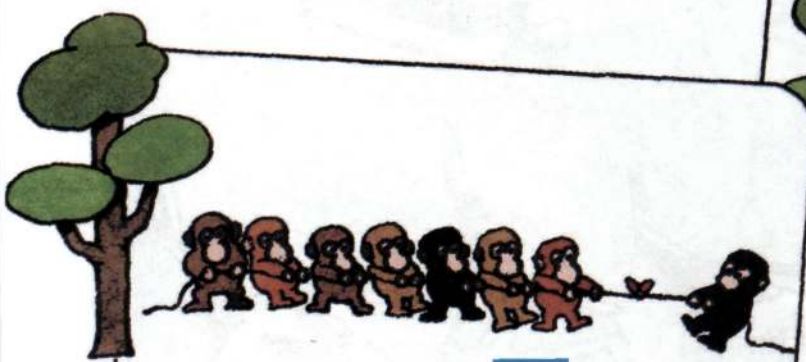


5 + 3 = ☐

3 + 5 = ☐



4 + 4 = ☐



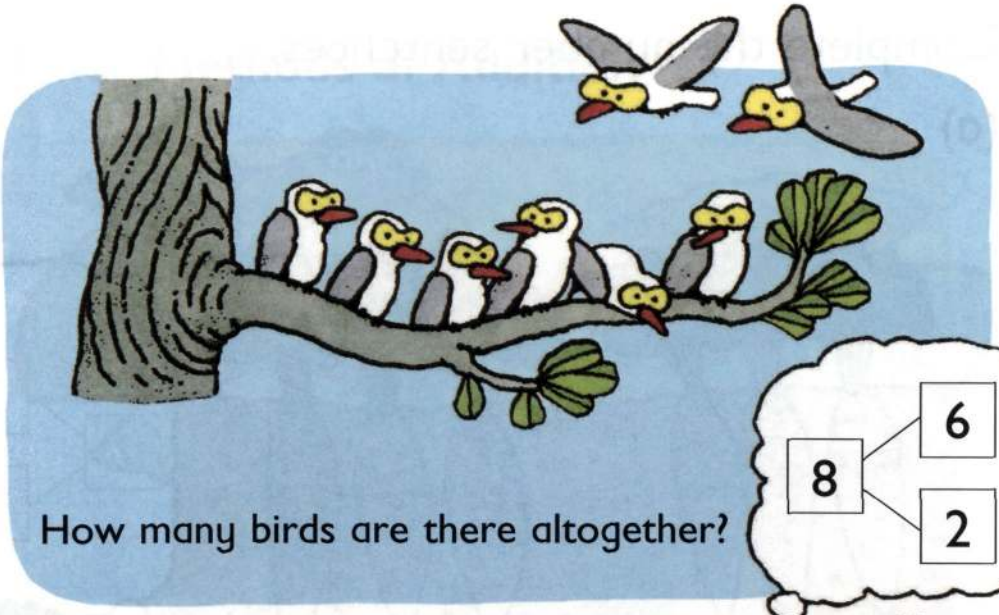
7 + 1 = ☐

1 + 7 = ☐

8 + 0 = ☐

0 + 8 = ☐

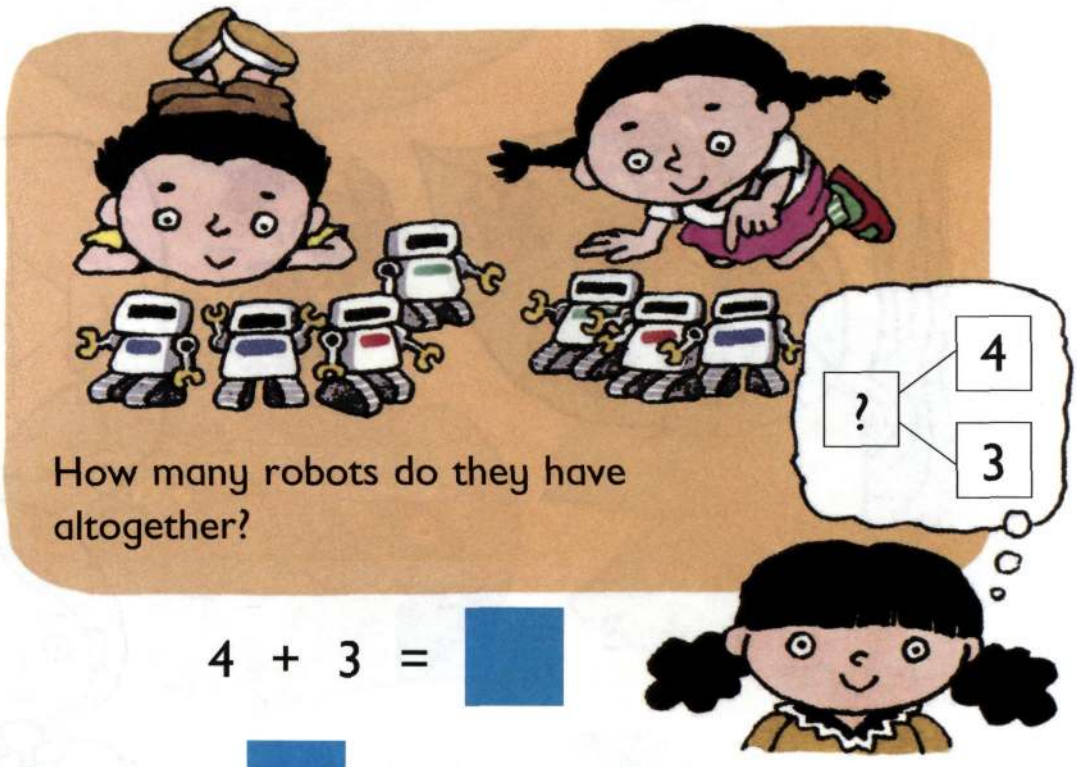
1.



6 + 2 = ☐

There are ☐ birds altogether.

2.



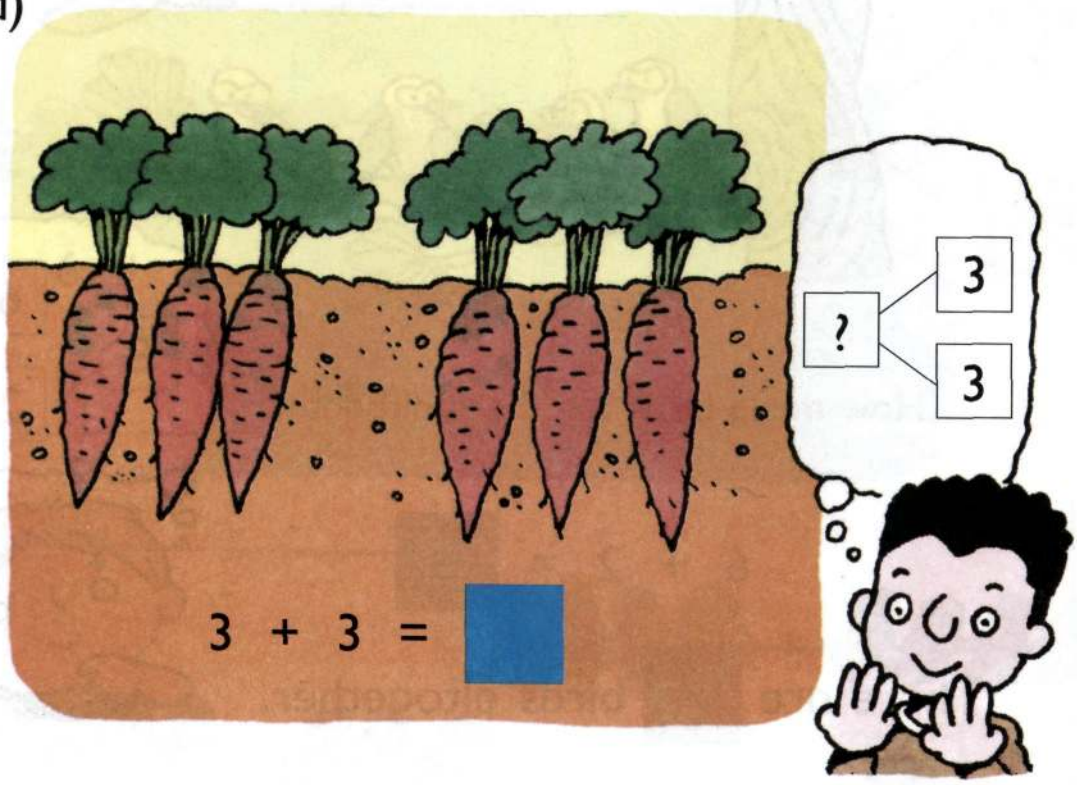
4 + 3 = ☐

There have ☐ robots altogether.

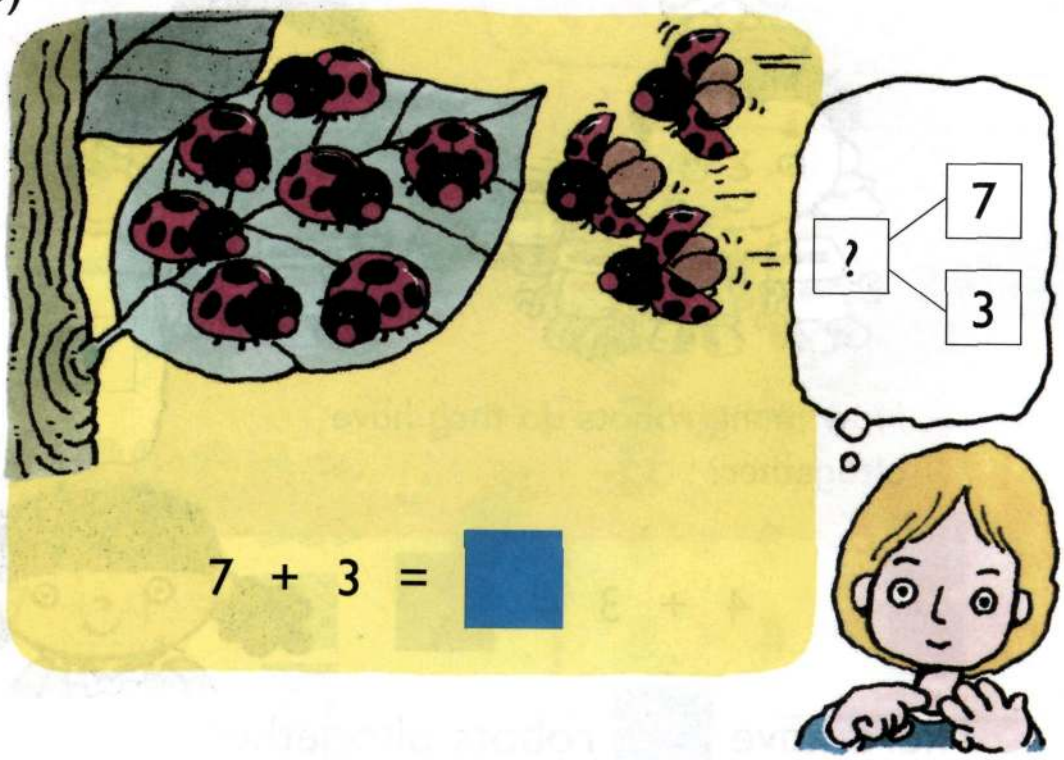
Workbook Exercises 15 & 16

3. Complete the number sentences.

(a)

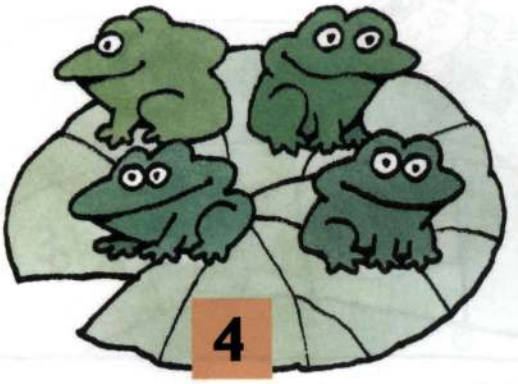


(b)

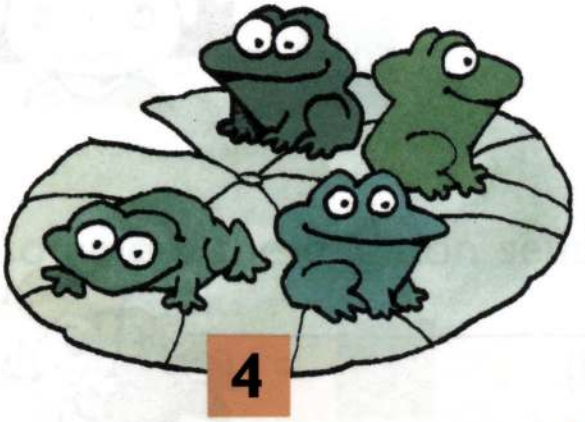


Workbook Exercise 17

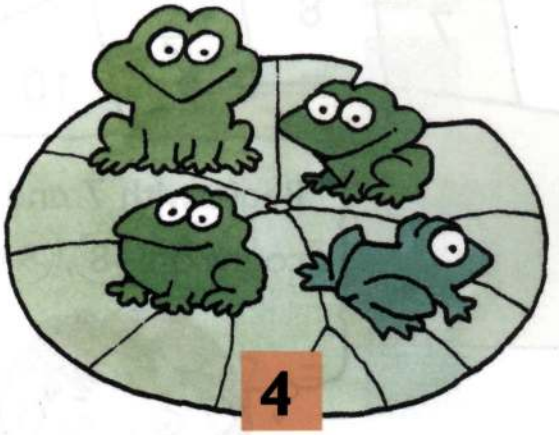
3 Other Methods of Addition



4 + 1 = ☐

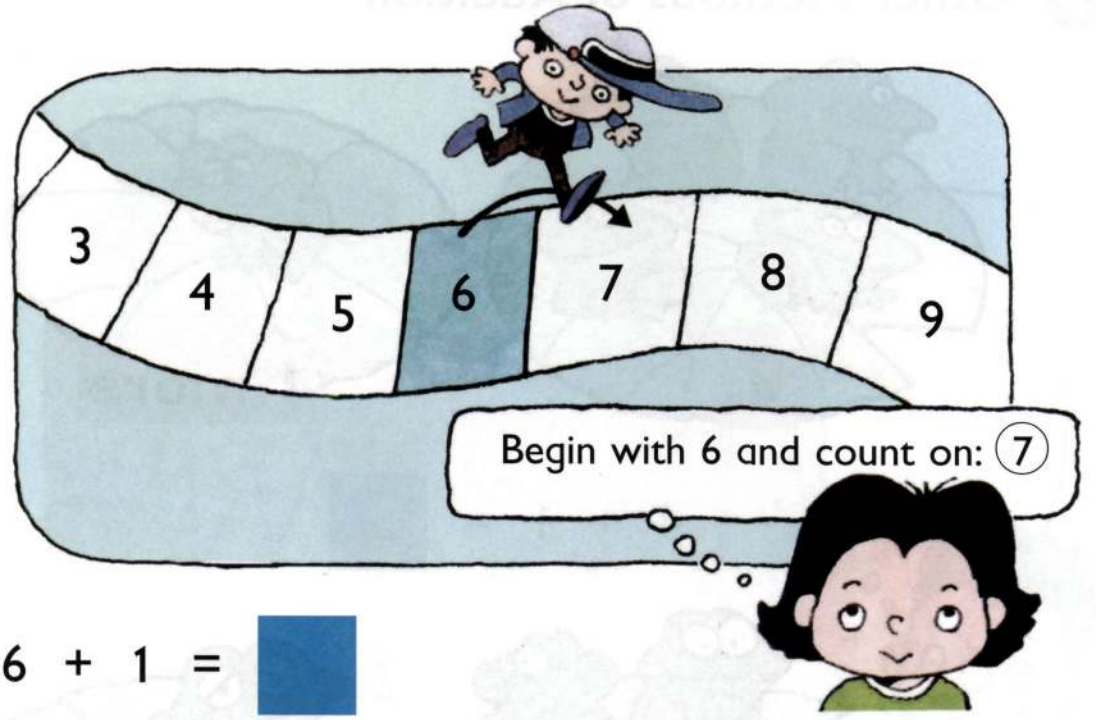


4 + 2 = ☐



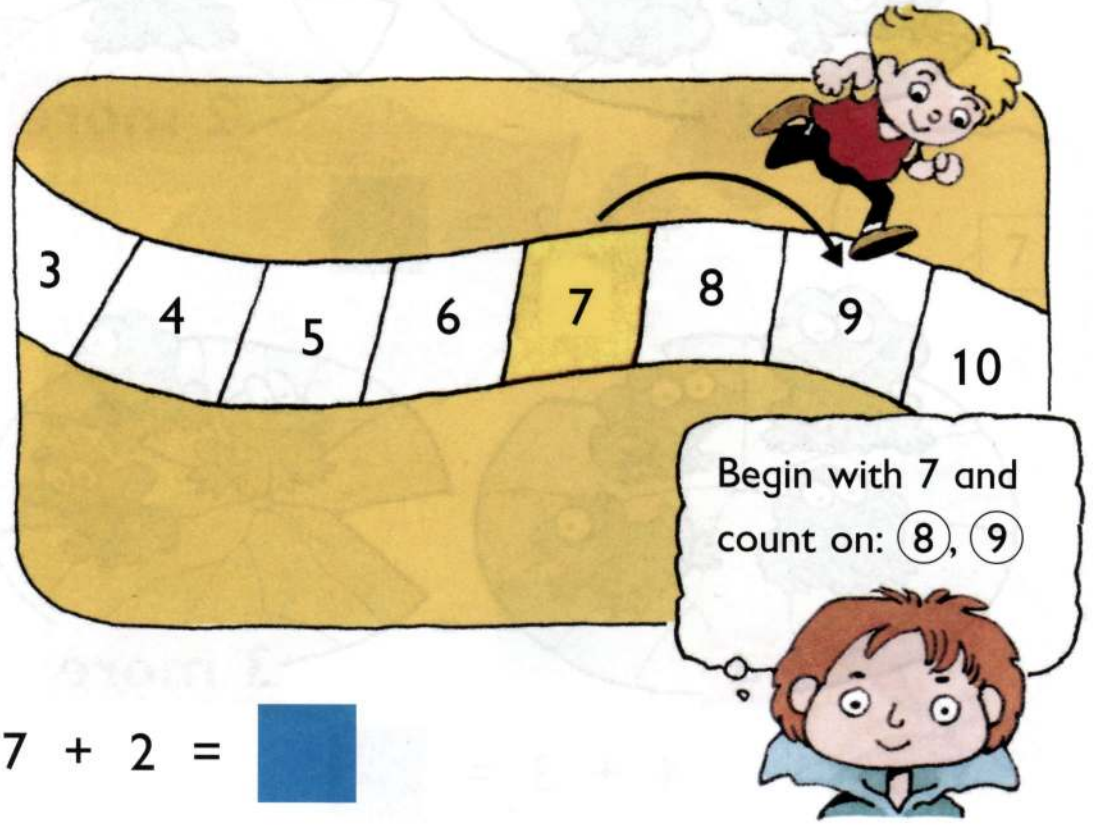
4 + 3 = ☐

1. Add 6 and 1.



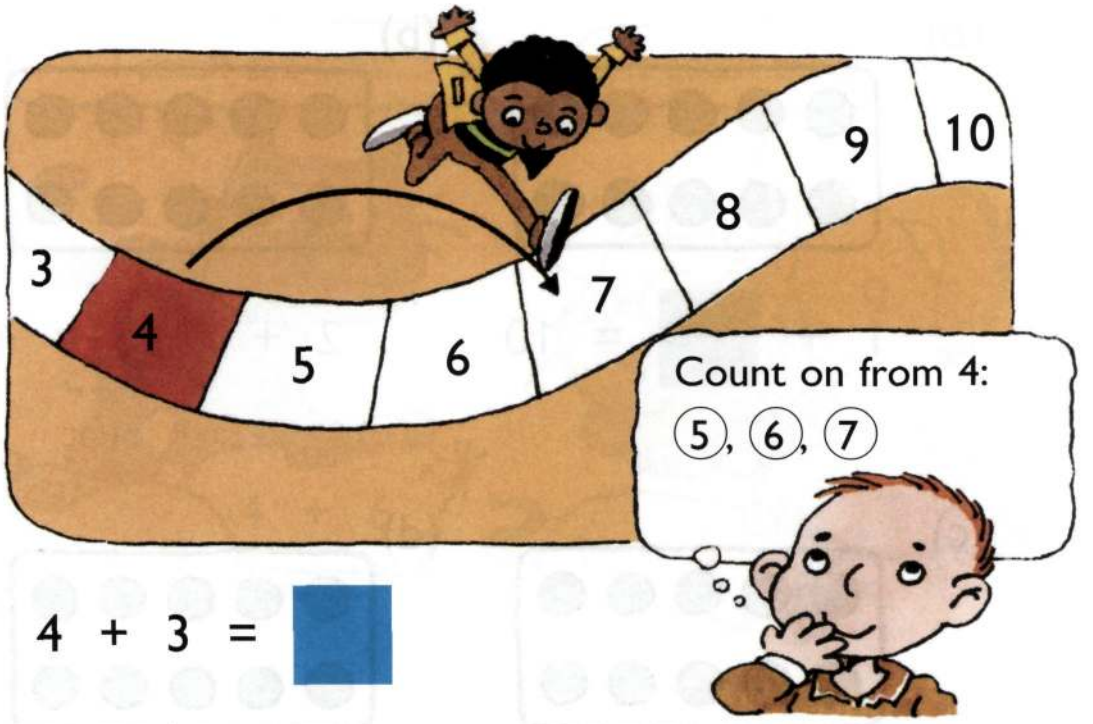
6 + 1 = ☐

2. Add 7 and 2.



7 + 2 = ☐

3. Add 4 and 3.



4 + 3 = ☐

4. Complete the addition sentences.

(a) 4 + 0 = ☐

5 + 0 = ☐

8 + 0 = ☐

(b) 5 + 1 = ☐

7 + 1 = ☐

9 + 1 = ☐

(c) 3 + 2 = ☐

6 + 2 = ☐

8 + 2 = ☐

(d) 5 + 3 = ☐

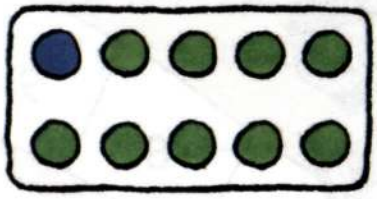
6 + 3 = ☐

7 + 3 = ☐

Workbook Exercise 18

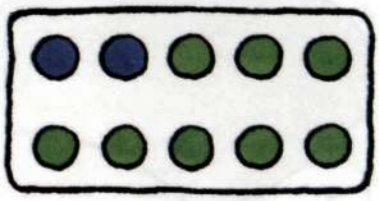
5. Complete the addition sentences.

(a)



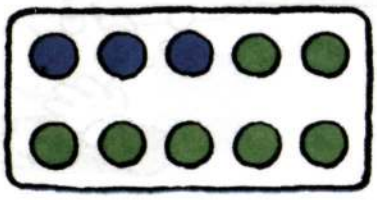
1 + ☐ = 10

(b)



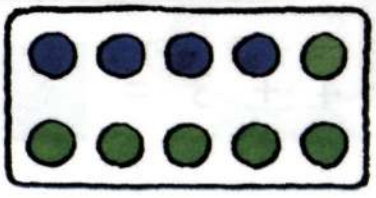
2 + ☐ = 10

(c)



3 + ☐ = 10

(d)



4 + ☐ = 10

(e) 5 + ☐ = 10

(f) 6 + ☐ = 10

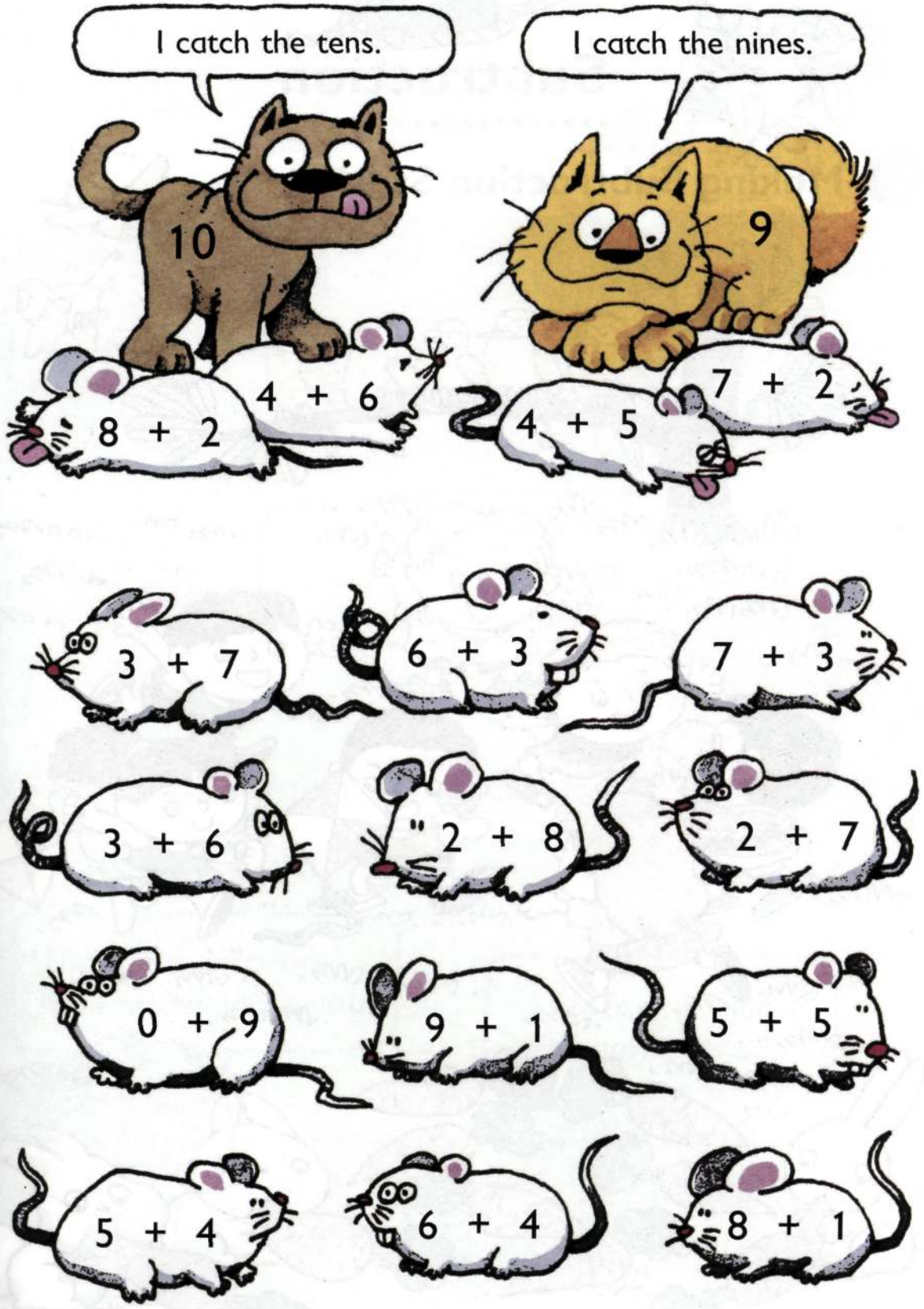
(g) 7 + ☐ = 10

(h) 8 + ☐ = 10

(i) 9 + ☐ = 10

(j) 10 + ☐ = 10

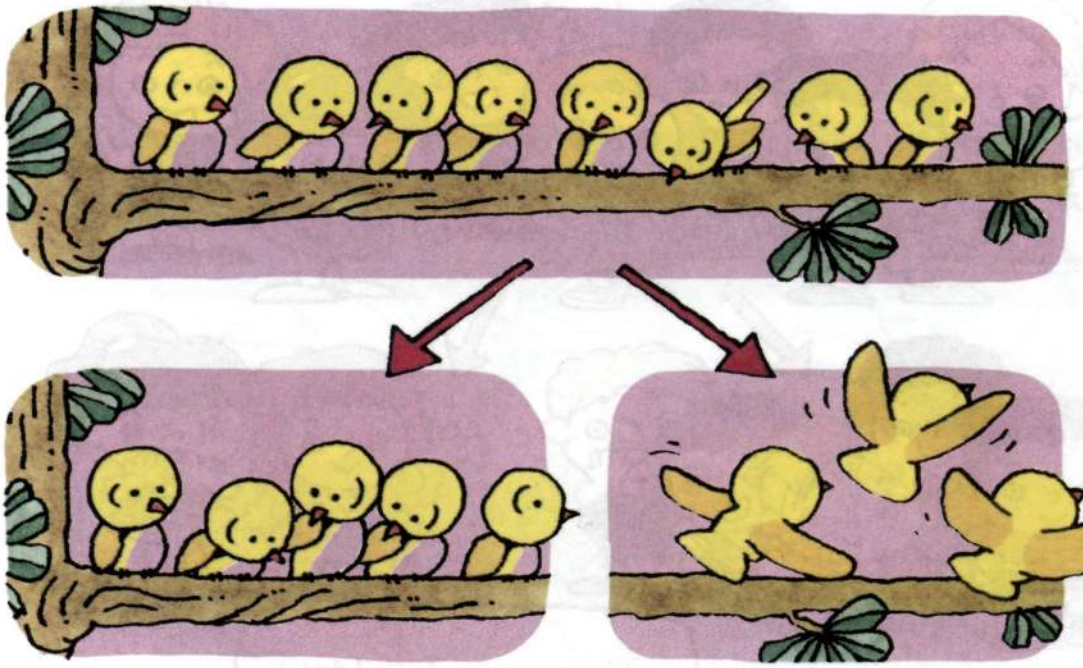
6. Which rats will each cat catch?



Workbook Exercise 19

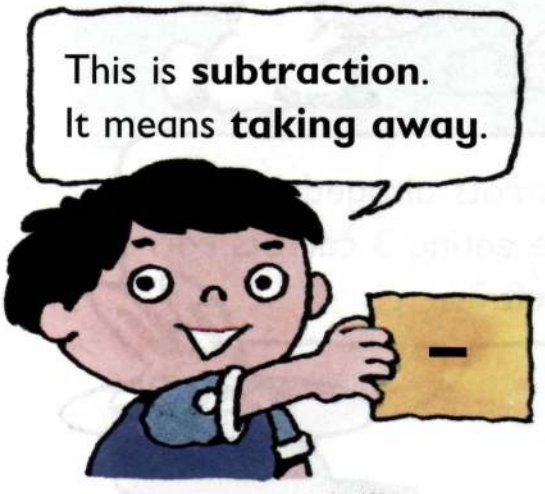
4 Subtraction

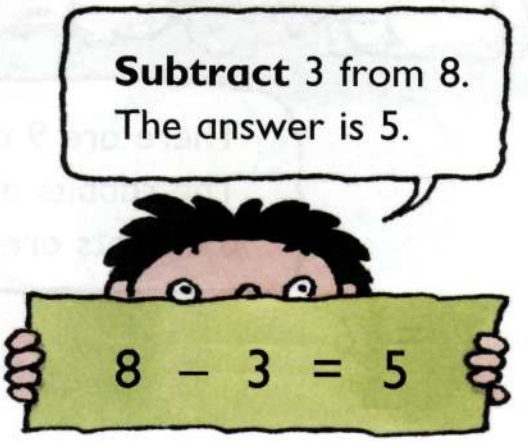
1 Making Subtraction Stories

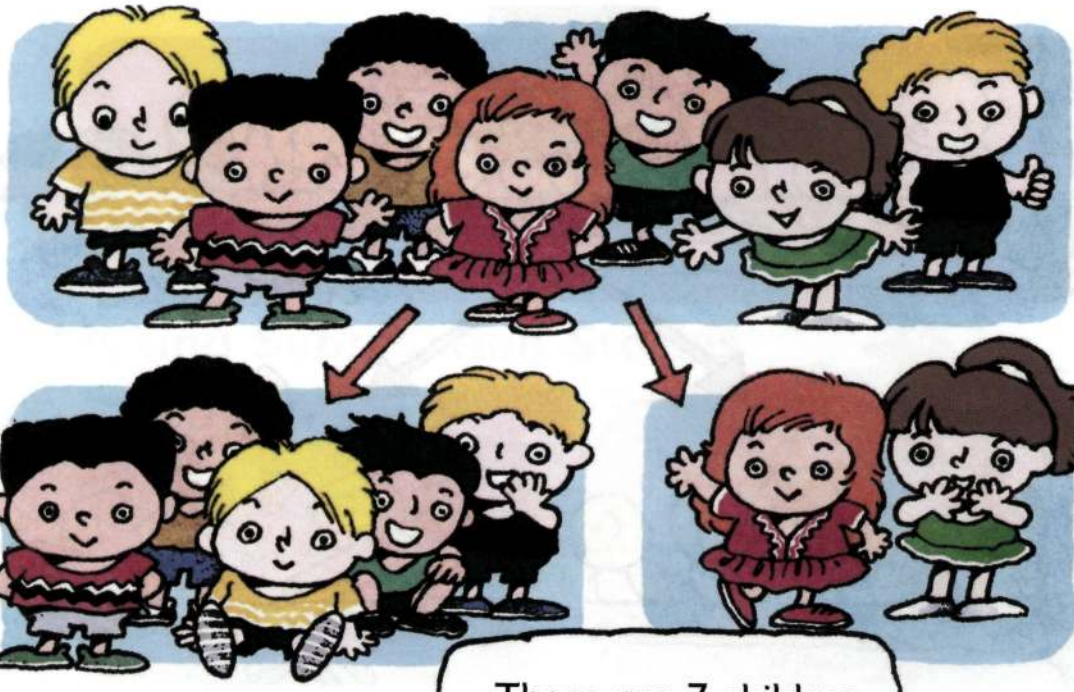


We write the number sentence:

8 – 3 = 5







$7 - 2 = 5$

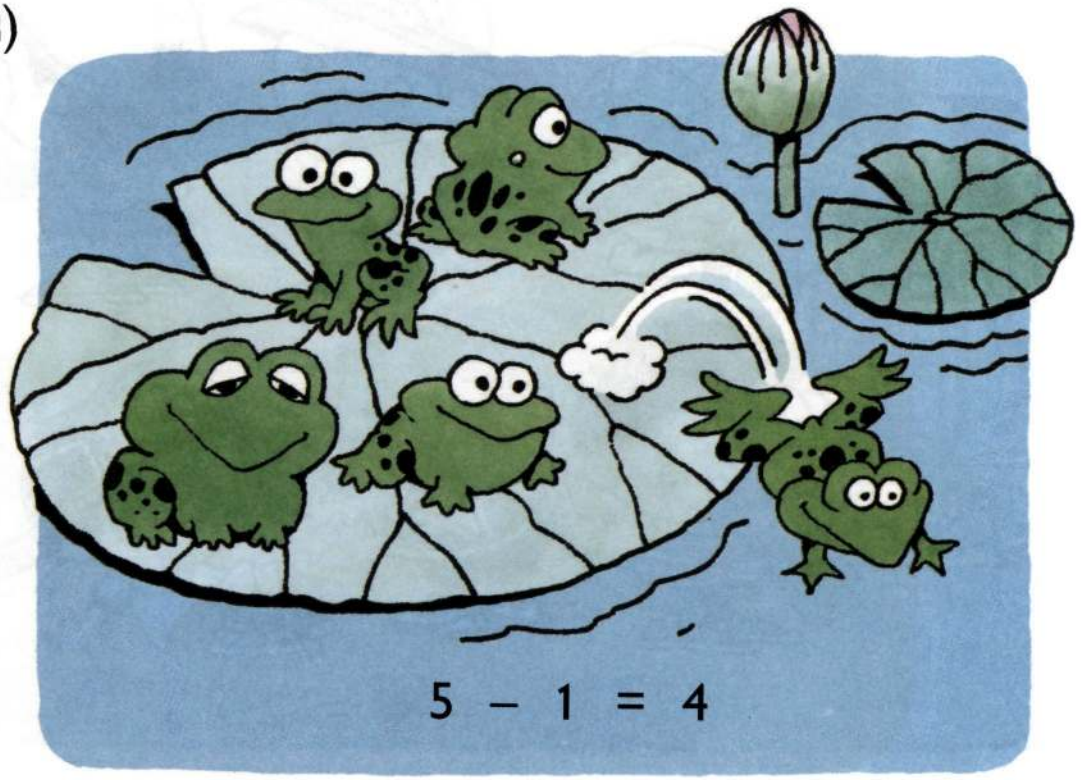
There are 7 children.
2 of them are girls.
There are 5 boys.

There are 9 carrots altogether.
The rabbits are eating 3 carrots.
6 carrots are left.

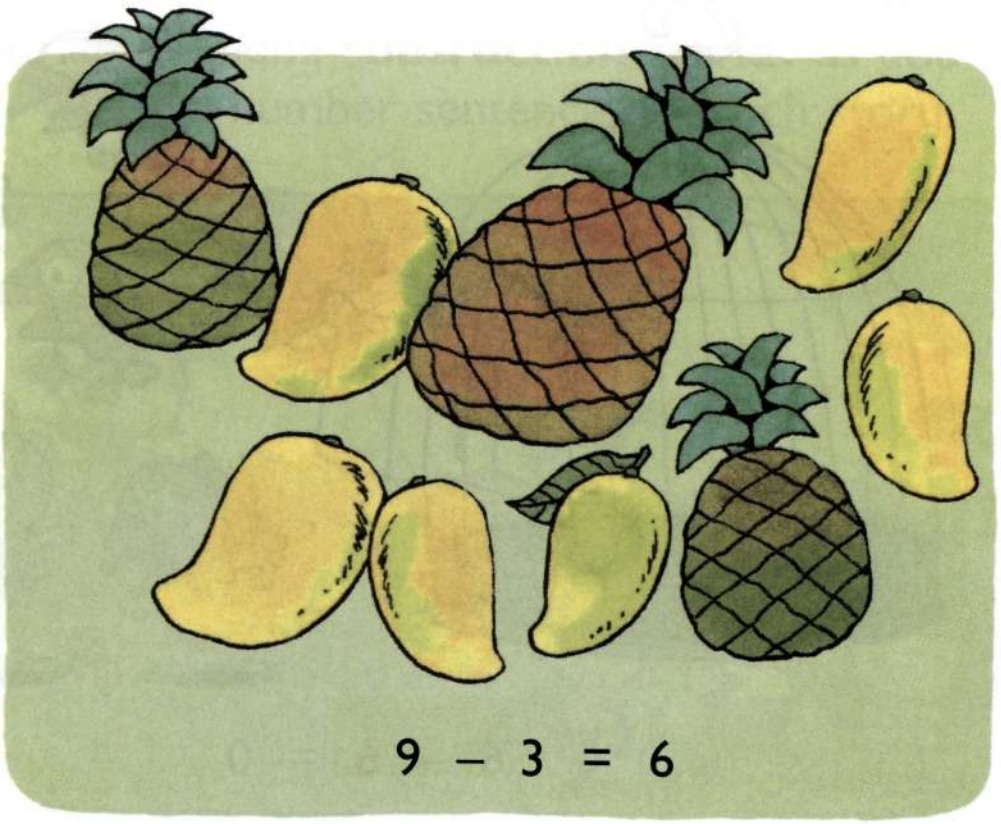
$9 - 3 = 6$

1. Make up a story for each number sentence.

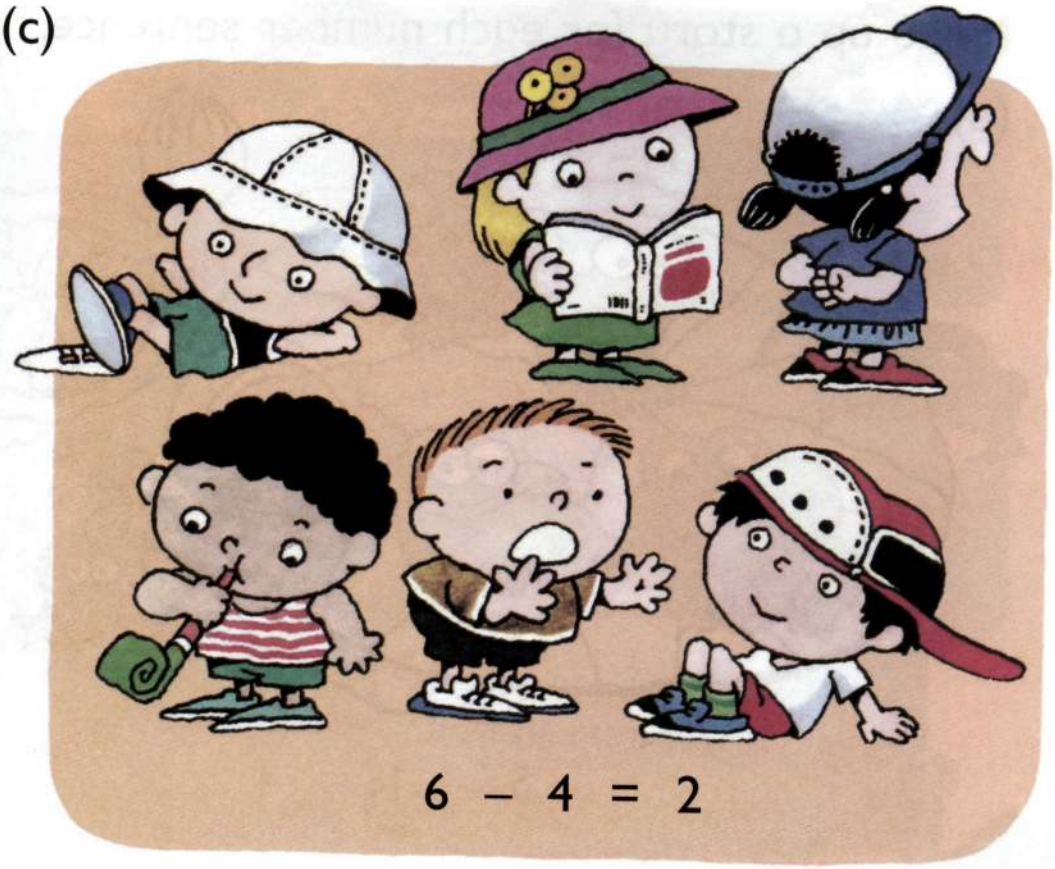
(a)



(b)

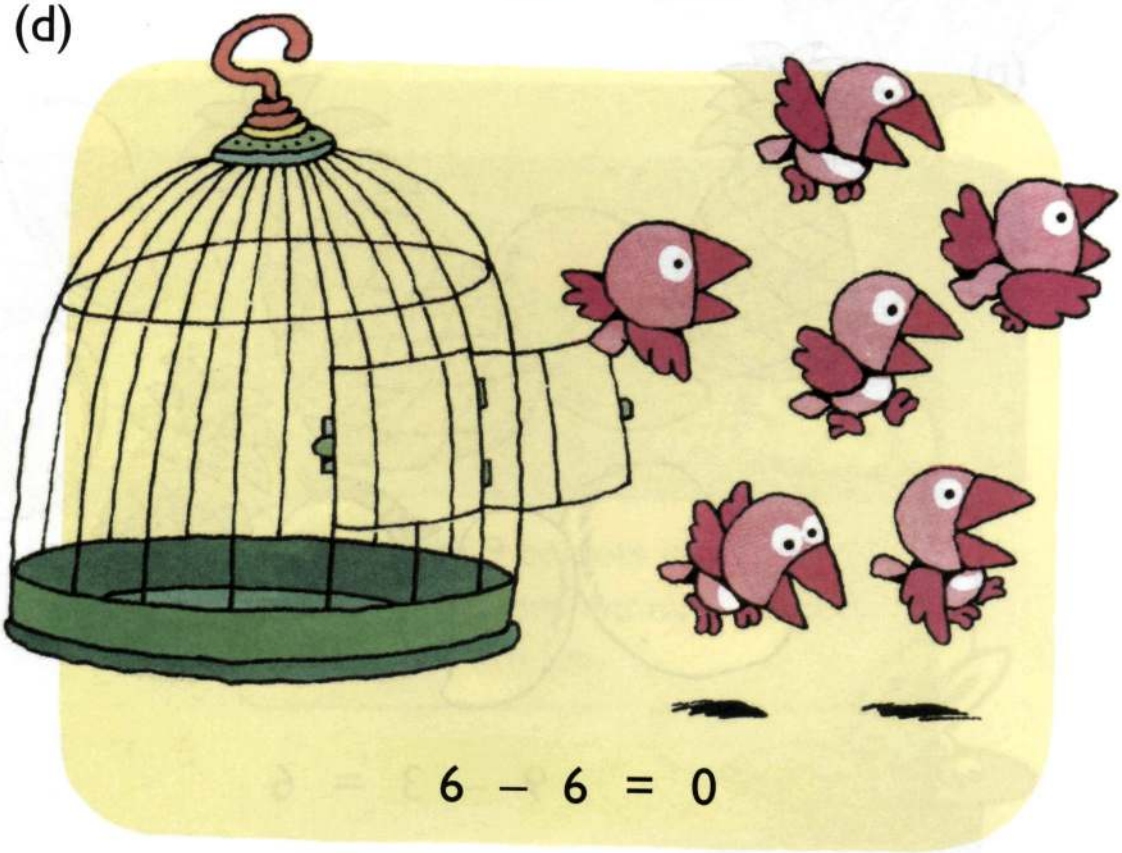


(c)



6 – 4 = 2

(d)



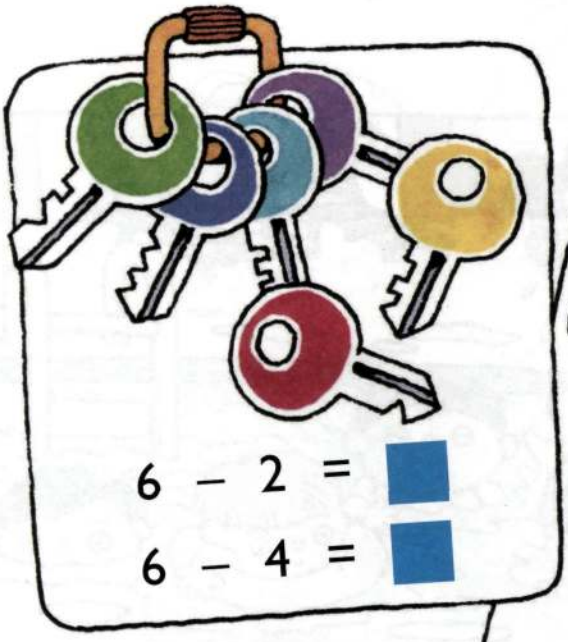
6 – 6 = 0

2. Make up as many stories as you can for each number sentence.

3. Make up as many **subtraction** stories as you can. Write a number sentence for each story.

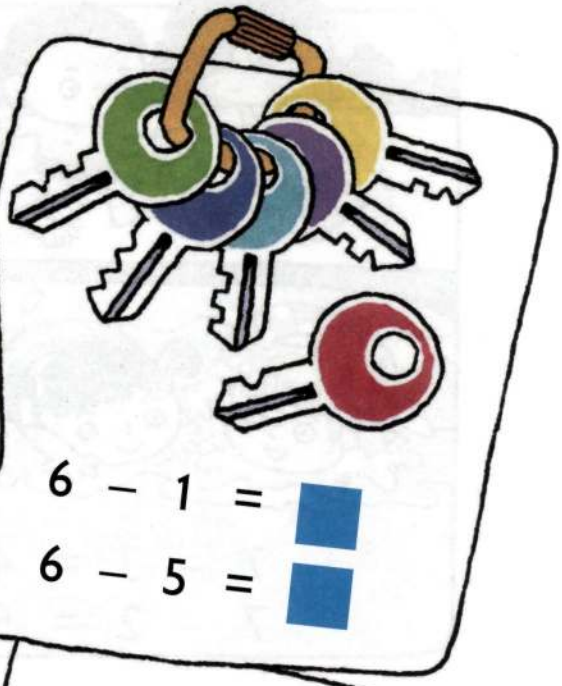
Workbook Exercises 20 to 22

2 Methods of Subtraction



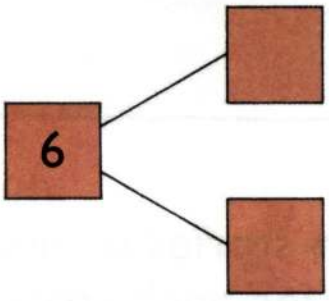
6 − 2 = ■

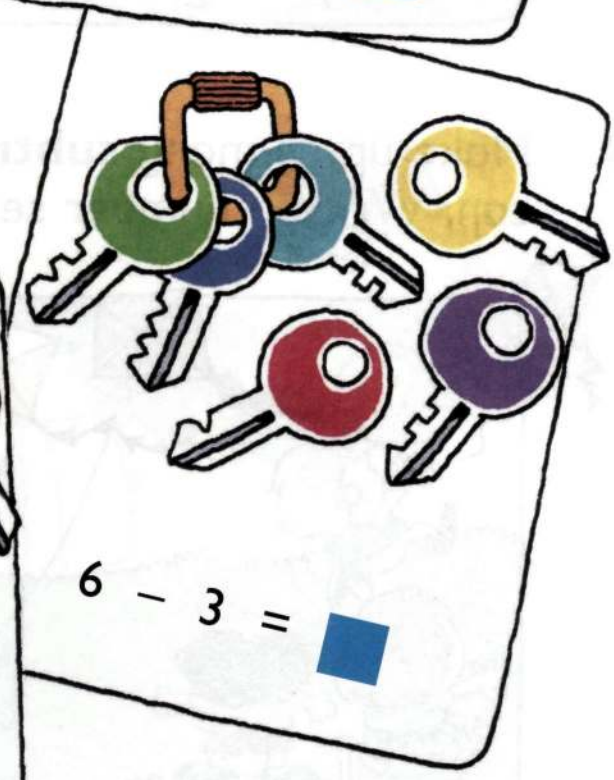
6 − 4 = ■



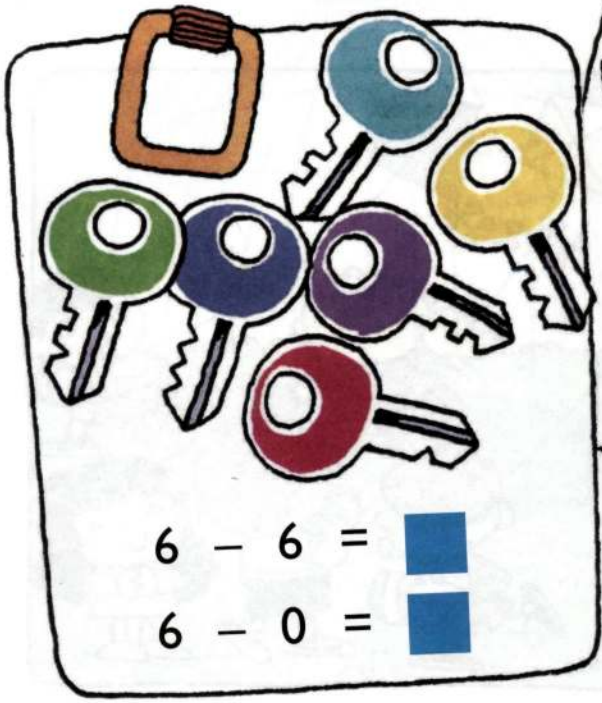
6 − 1 = ■

6 − 5 = ■





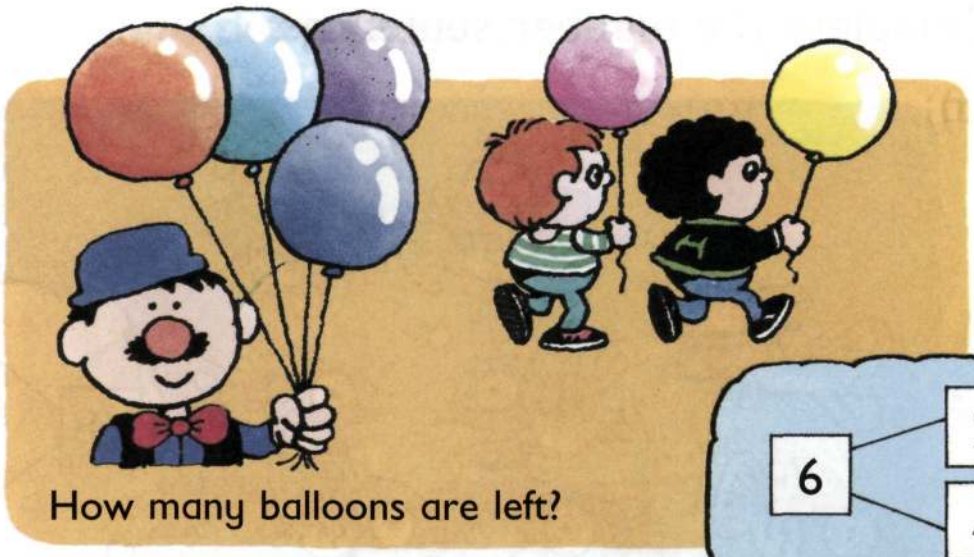
6 − 3 = ■



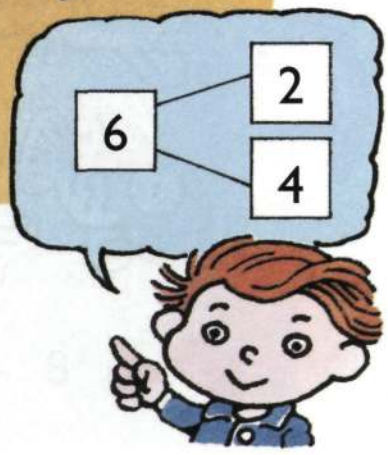
6 − 6 = ■

6 − 0 = ■

1.



How many balloons are left?

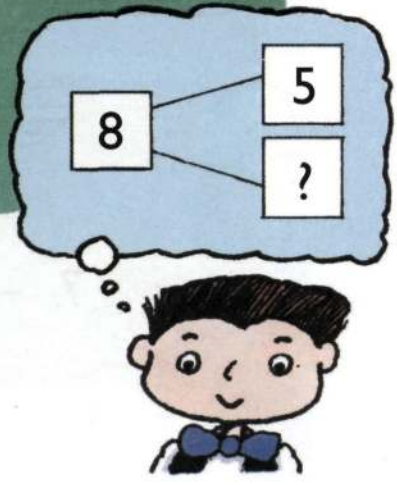


6 – 2 = ☐

☐ balloons are left.

2.

5 dolls belong to Morgan.
The rest belong to Emily.
How many dolls does Emily have?

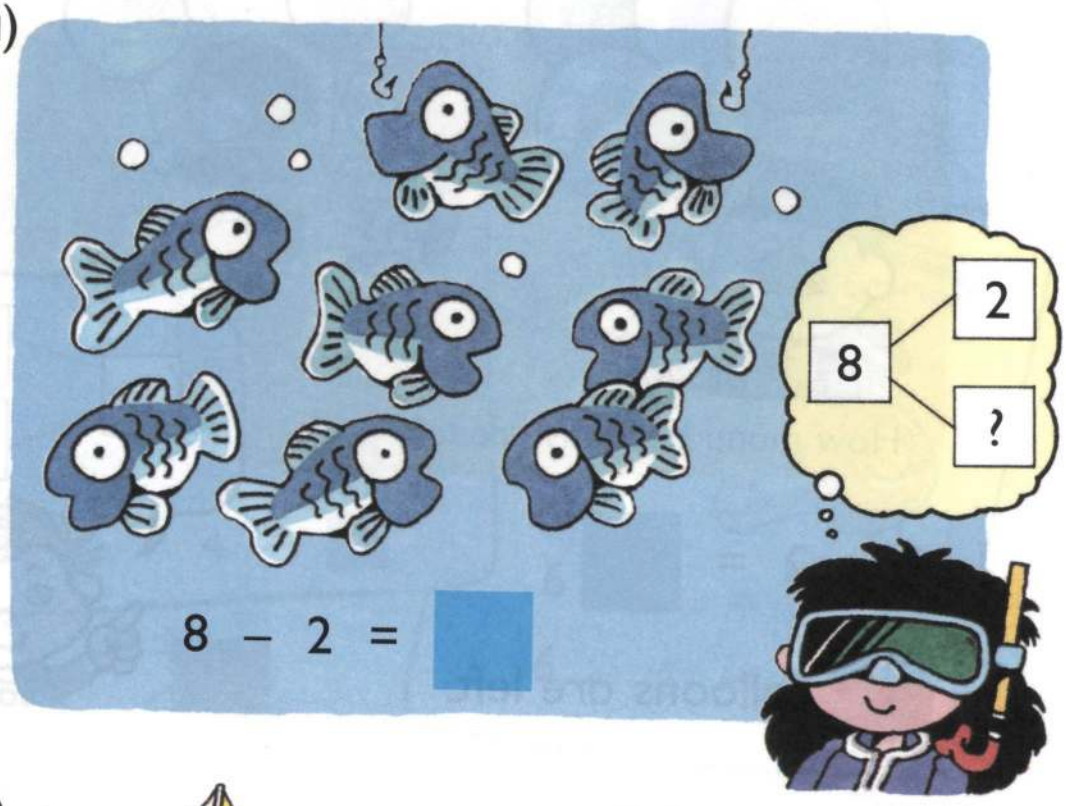


8 – 5 = ☐

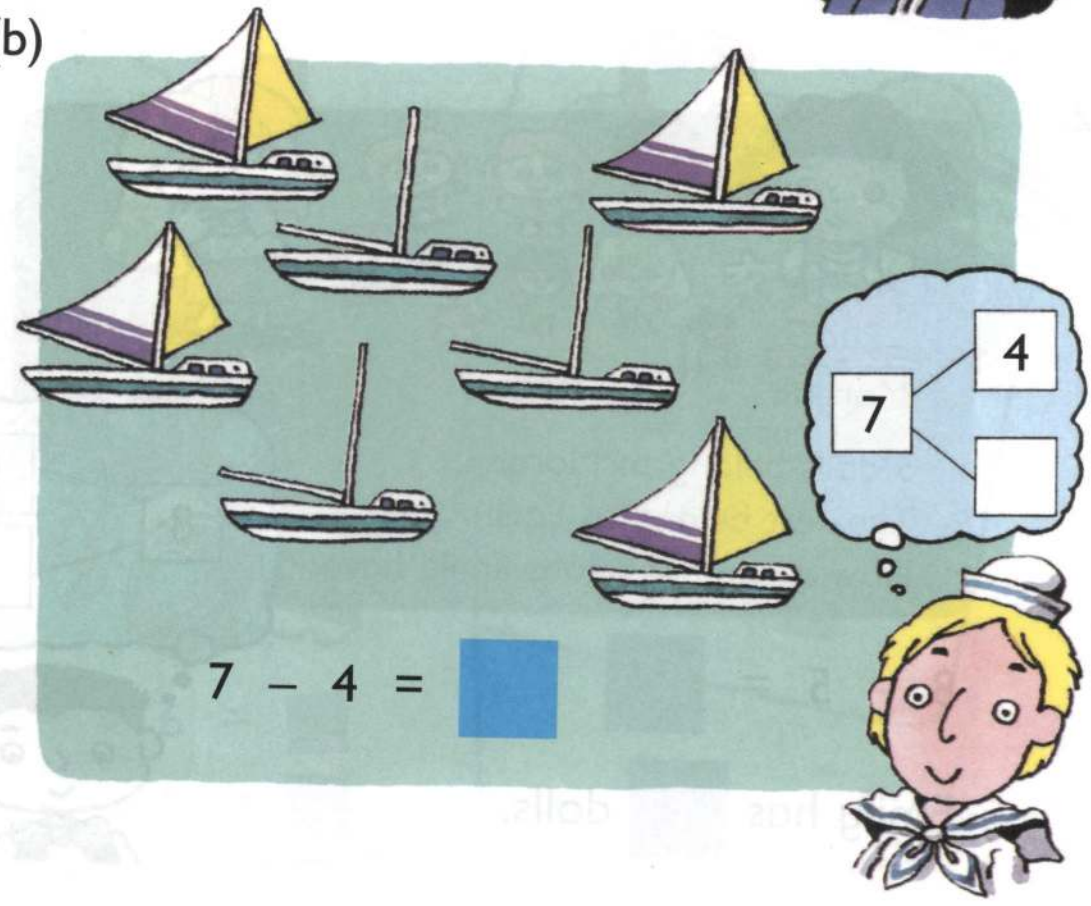
Emily has ☐ dolls.

3. Complete the number sentences.

(a)



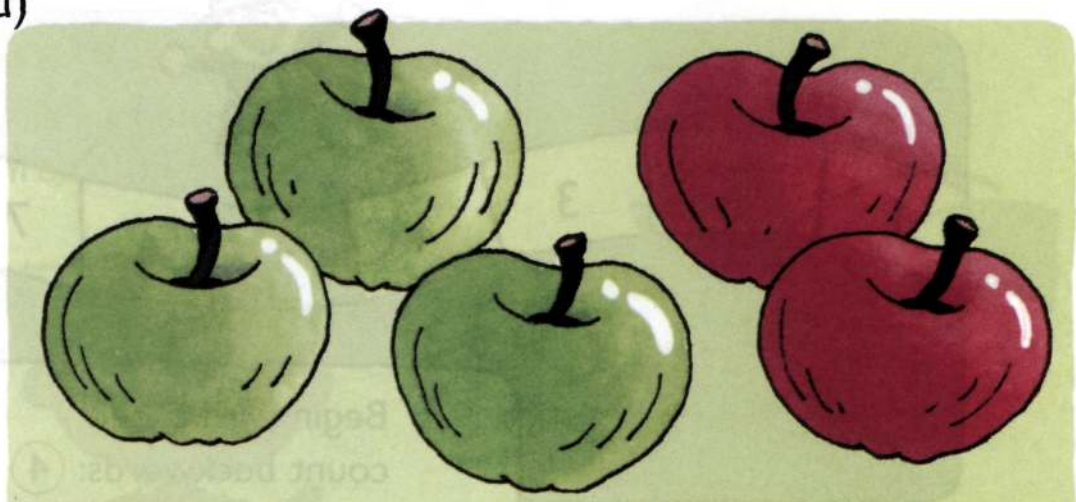
(b)



Workbook Exercises 23 & 24

4. Complete the number sentences.

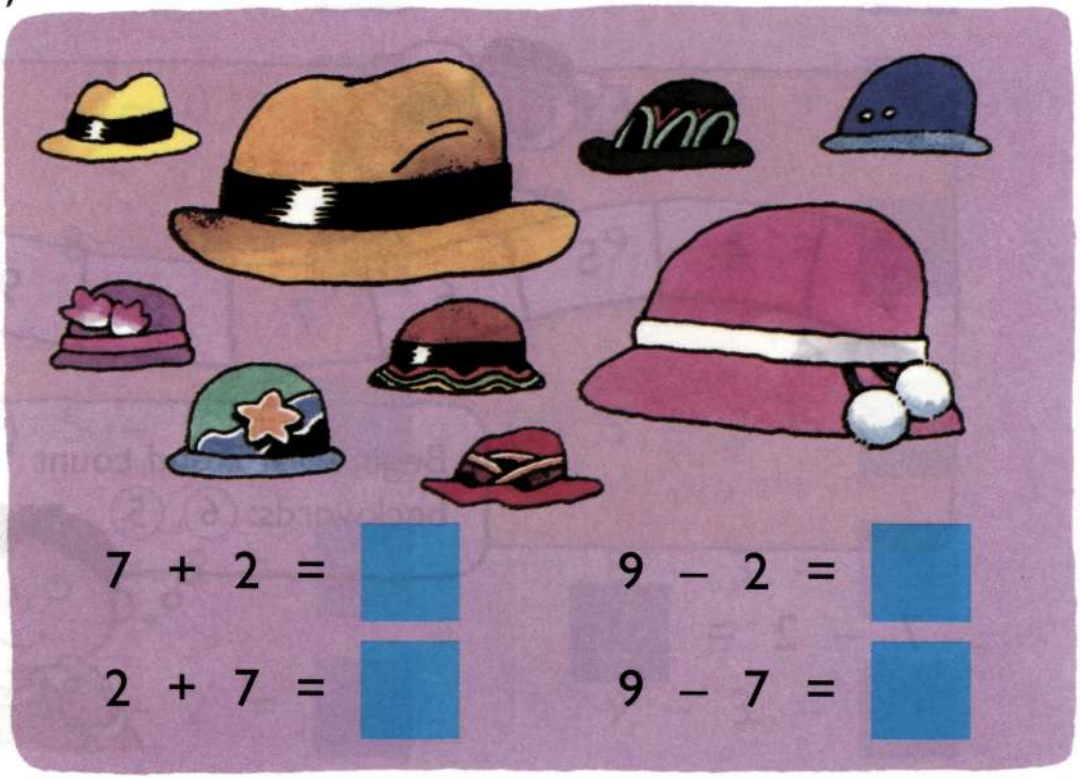
(a)



3 + 2 = ☐ 5 − 2 = ☐

2 + 3 = ☐ 5 − 3 = ☐

(b)

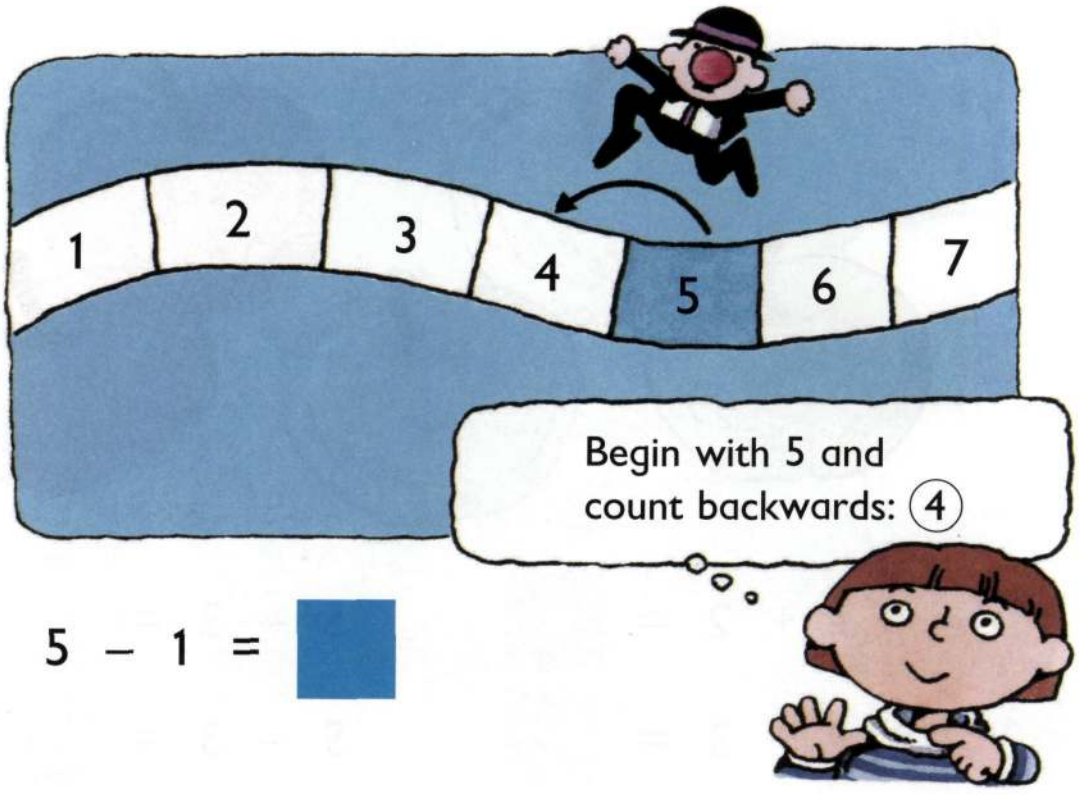


7 + 2 = ☐ 9 − 2 = ☐

2 + 7 = ☐ 9 − 7 = ☐

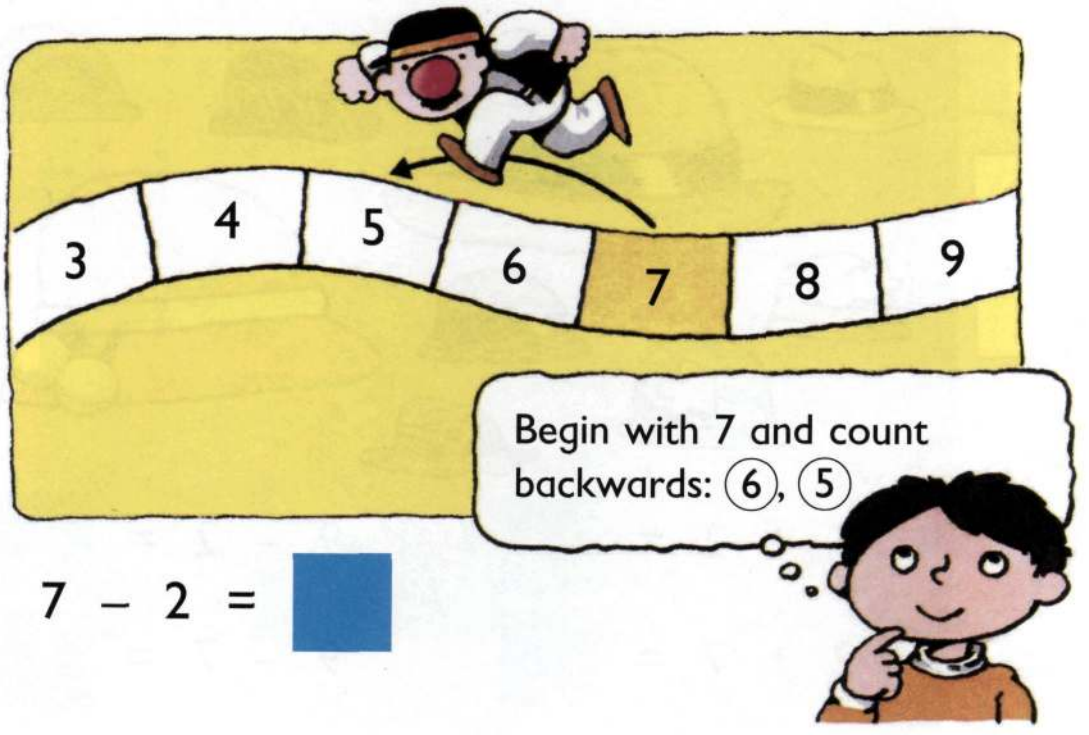
Workbook Exercises 25 & 26

5. Subtract 1 from 5.



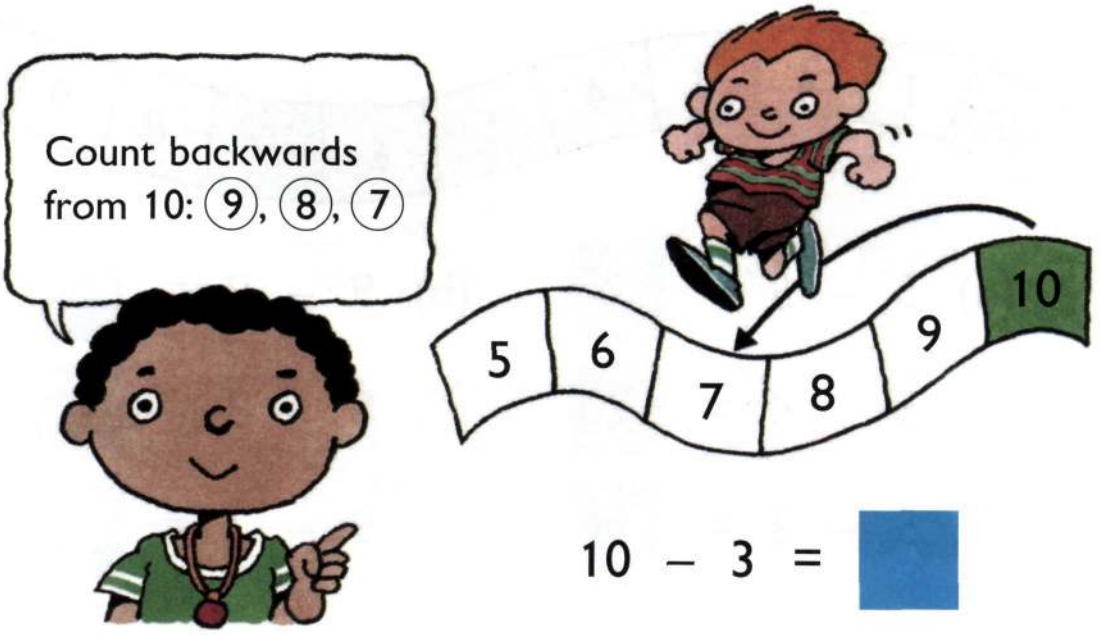
5 – 1 = ☐

6. Subtract 2 from 7.



7 – 2 = ☐

7. Subtract 3 from 10.



10 – 3 = ☐

8. Complete the subtraction sentences.

(a) 3 – 0 = ☐

5 – 0 = ☐

8 – 0 = ☐

(b) 4 – 1 = ☐

7 – 1 = ☐

9 – 1 = ☐

(c) 5 – 2 = ☐

6 – 2 = ☐

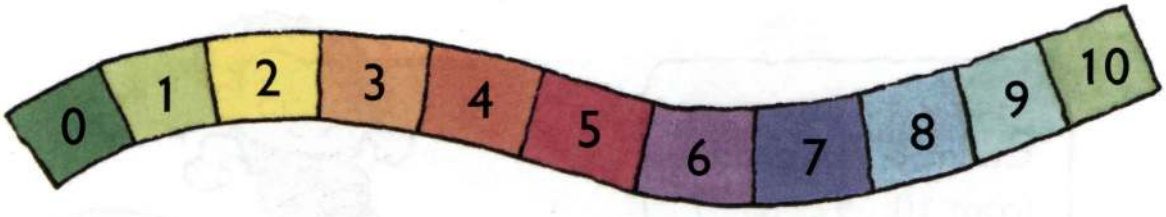
10 – 2 = ☐

(d) 5 – 3 = ☐

8 – 3 = ☐

9 – 3 = ☐

9. Complete the subtraction sentences.



(a) $5 - 5 =$ ☐

$5 - 4 =$ ☐

$5 - 3 =$ ☐

(b) $9 - 9 =$ ☐

$9 - 8 =$ ☐

$9 - 7 =$ ☐

(c) $3 - 2 =$ ☐

$6 - 5 =$ ☐

$9 - 8 =$ ☐

(d) $6 - 4 =$ ☐

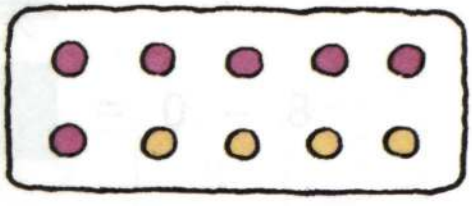
$7 - 5 =$ ☐

$8 - 6 =$ ☐

10. Subtract 6 from 10.

6 and 4 make 10.

$10 - 6 =$ ☐



11. Complete the subtraction sentences.

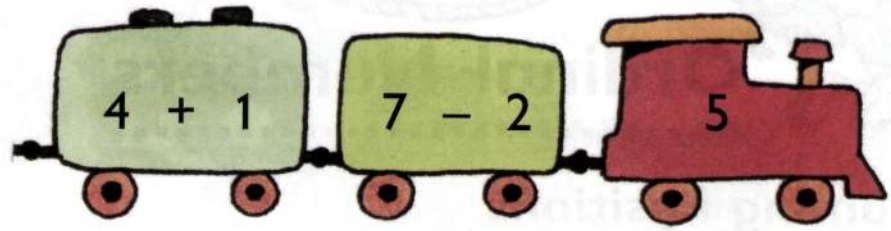
(a) $10 - 3 =$ ☐

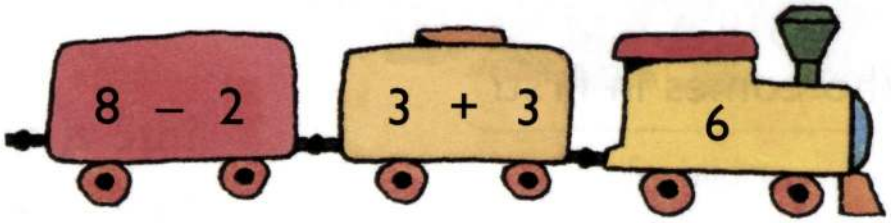
(b) $10 - 5 =$ ☐

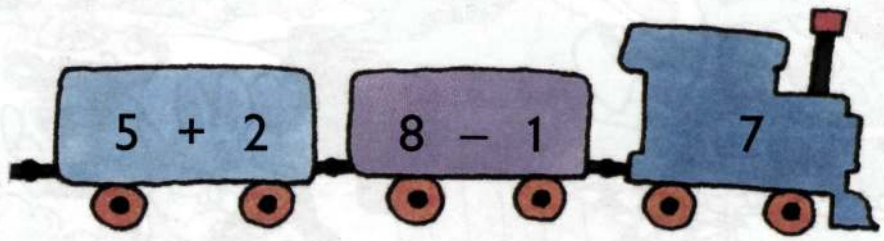
(c) $10 - 8 =$ ☐

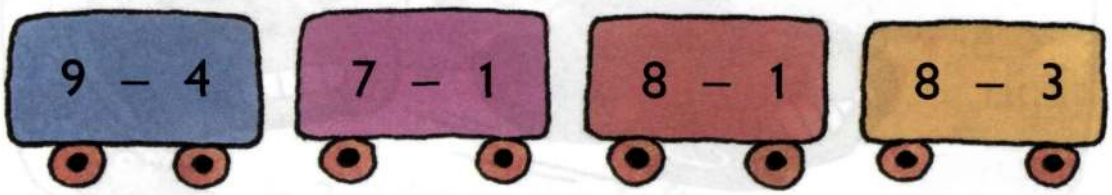
(d) $10 - 9 =$ ☐

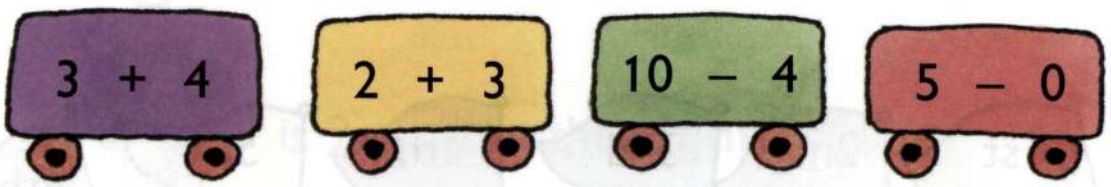
12. Which train does each car belong to?

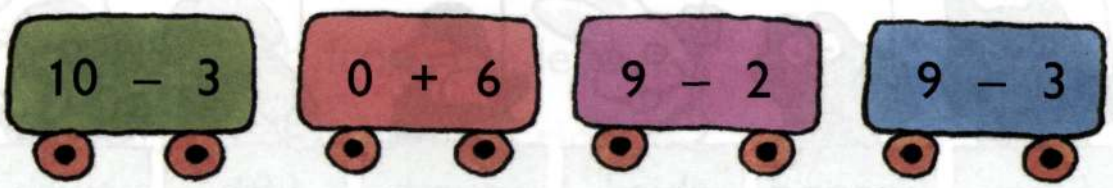










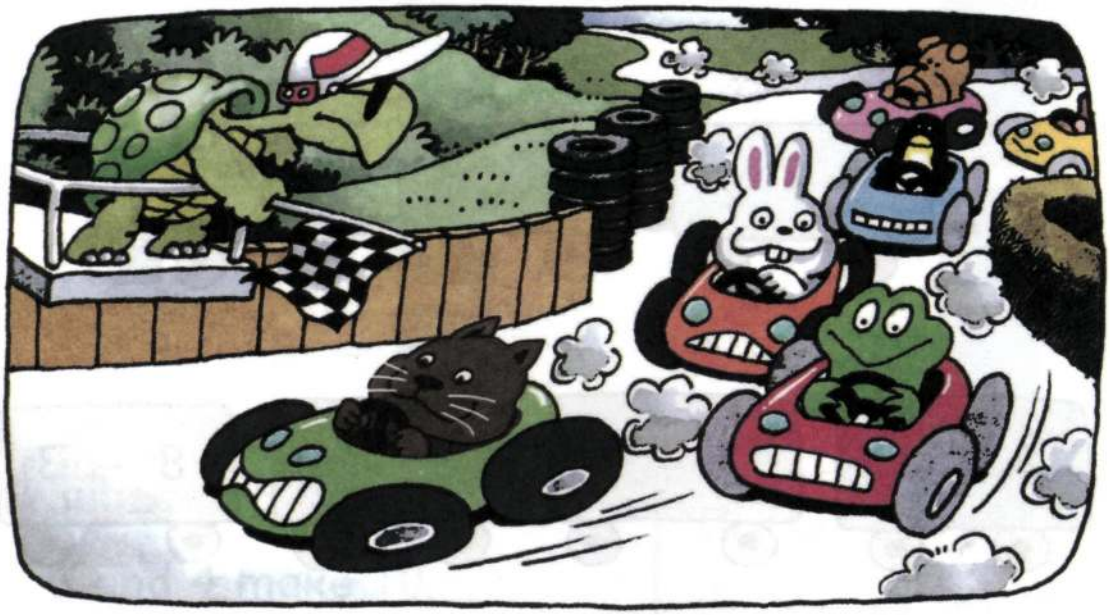


Workbook Exercises 29 to 31

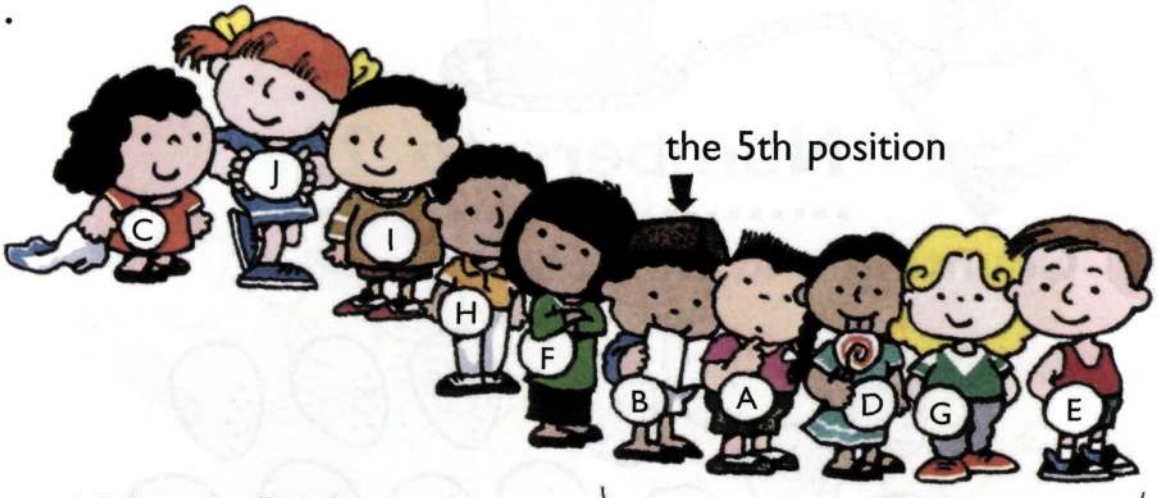
5 Ordinal Numbers

1 Naming Positions

Who comes in first?



1.



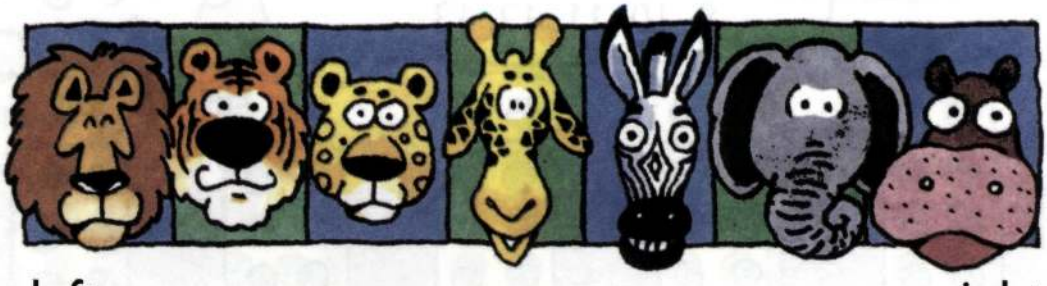
Who is 5th?

Who is 9th?

In which position is the boy E?

Workbook Exercises 32 & 33

2.



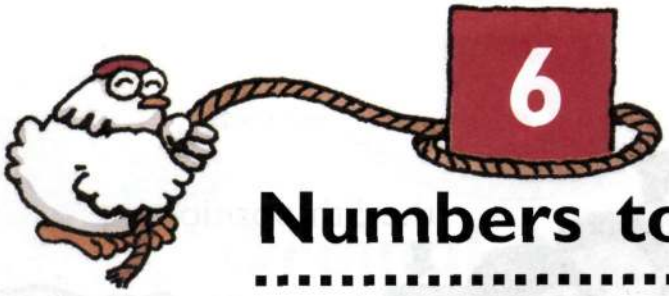
is 3rd from the **left**.

is 2nd from the **right**.

Who is 4th from the left?

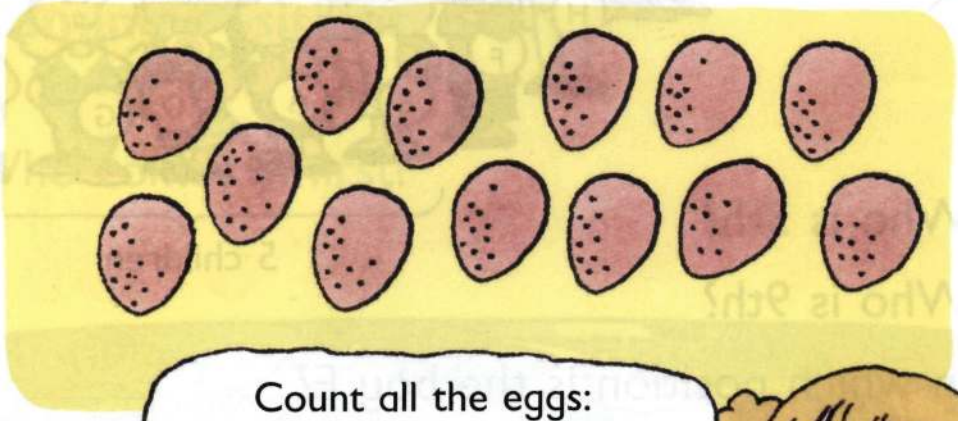
Who is 6th from the right?

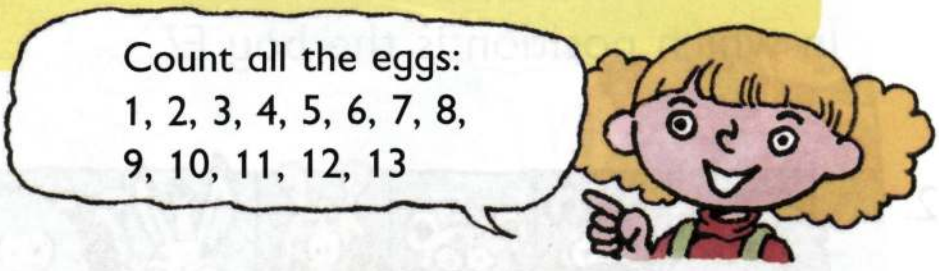
Workbook Exercise 34

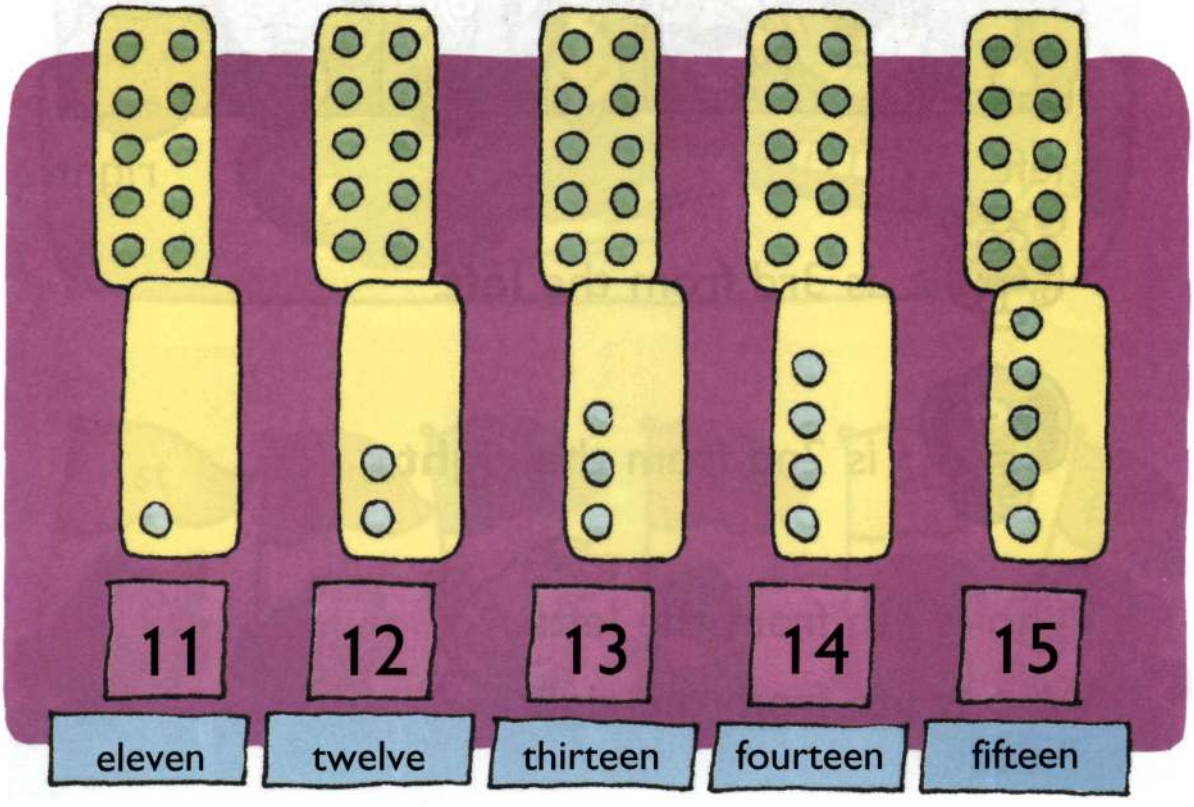


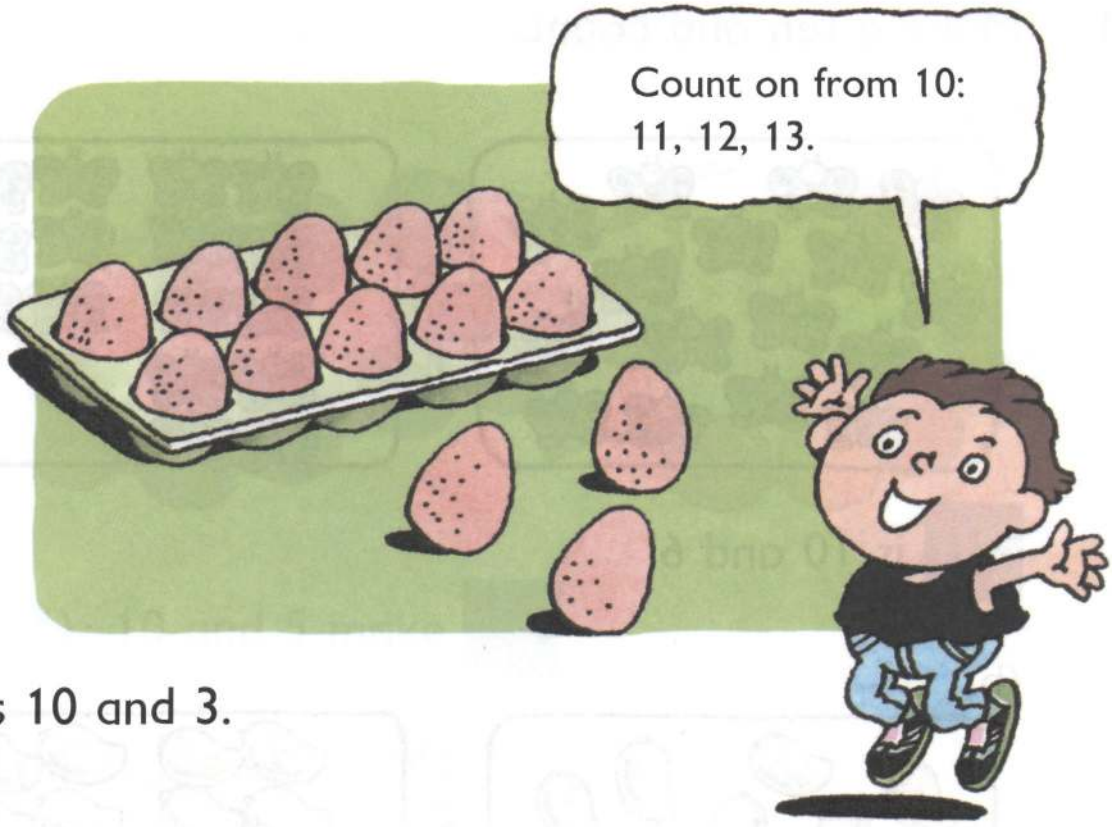
6 Numbers to 20

1 Counting and Comparing

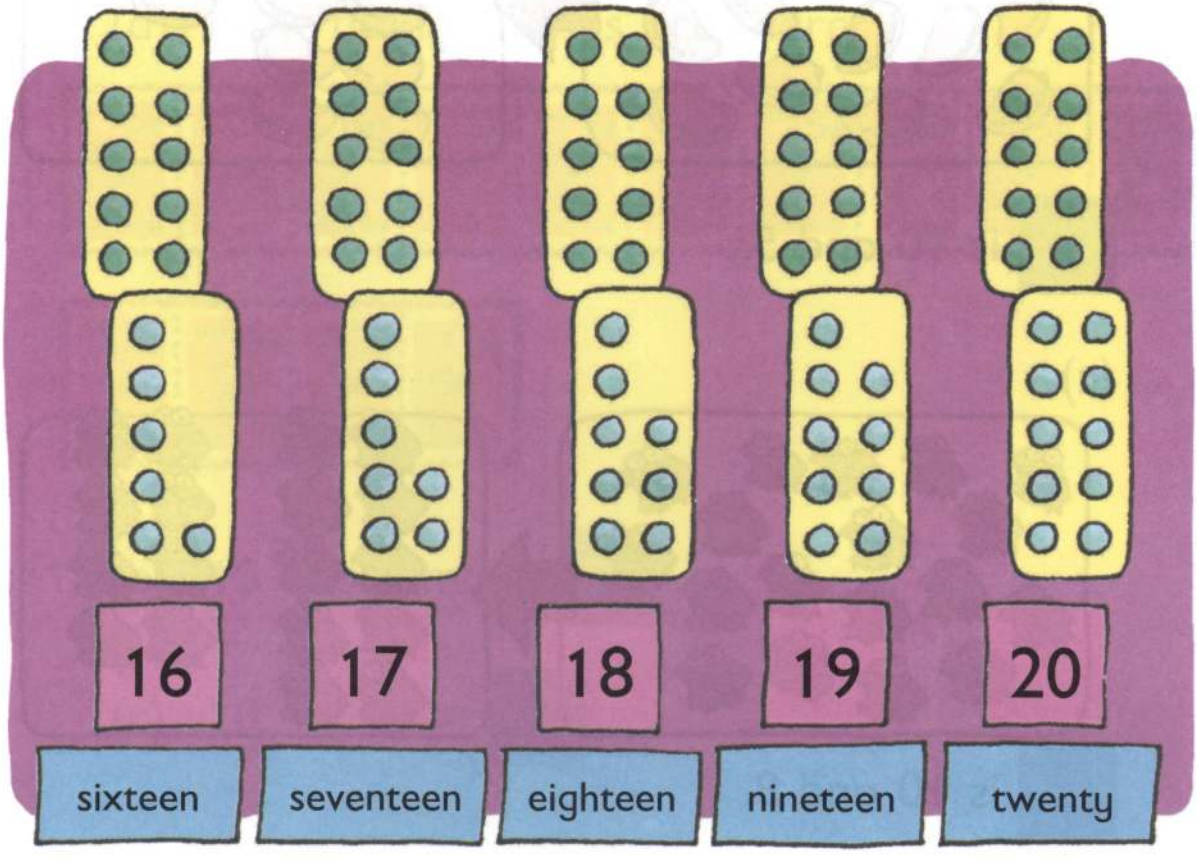






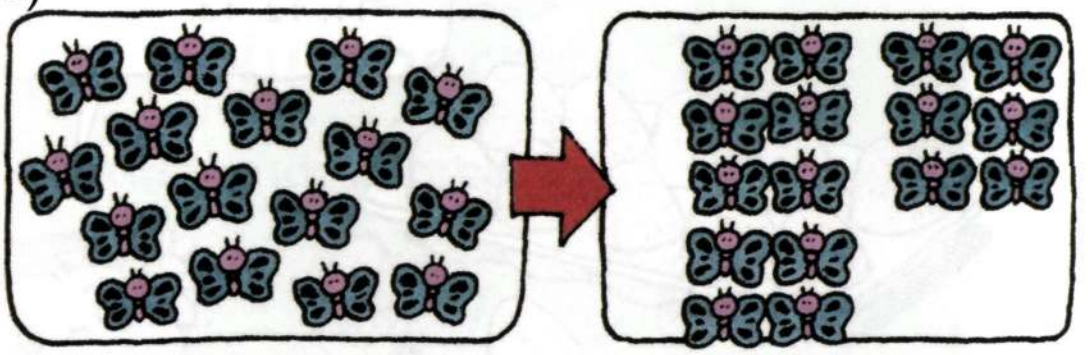

Count on from 10:
11, 12, 13.

13 is 10 and 3.


16
17
18
19
20
sixteen
seventeen
eighteen
nineteen
twenty

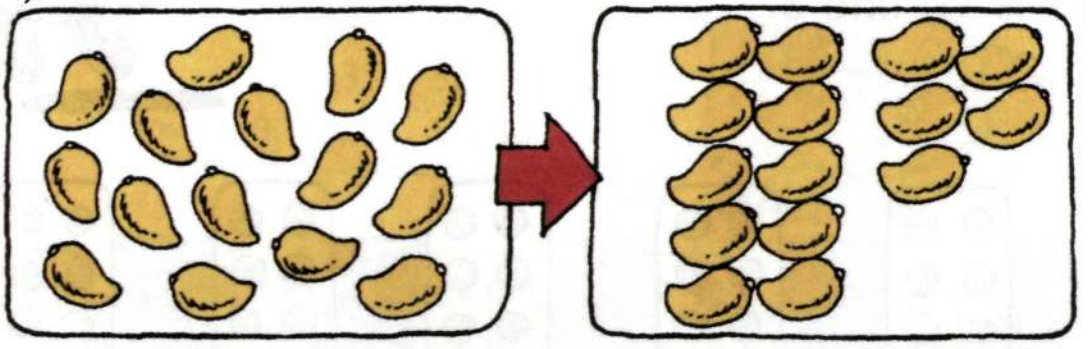
1. Make a ten and count.

(a)



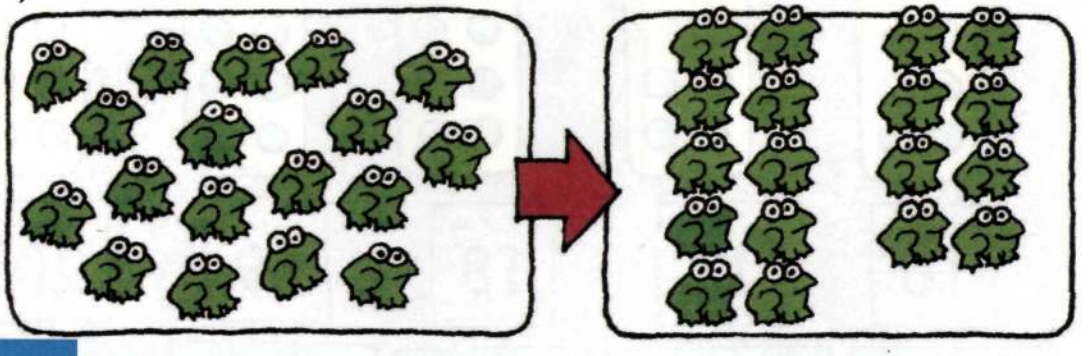
is 10 and 6.

(b)



is 10 and 5.

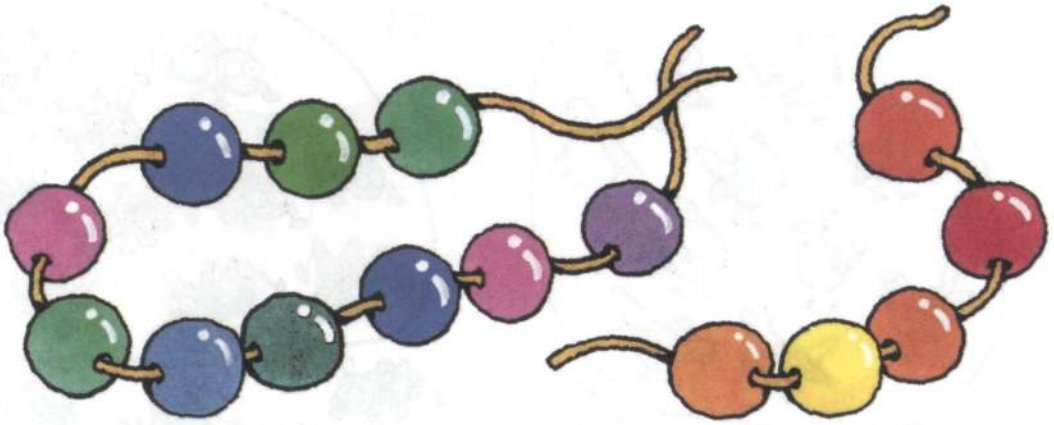
(c)



is 10 and 8.

Workbook Exercises 35 & 36

2. (a) How many beads are there?



(b) 10 and 5 make ____ .

(c) 10 + 5 = ____

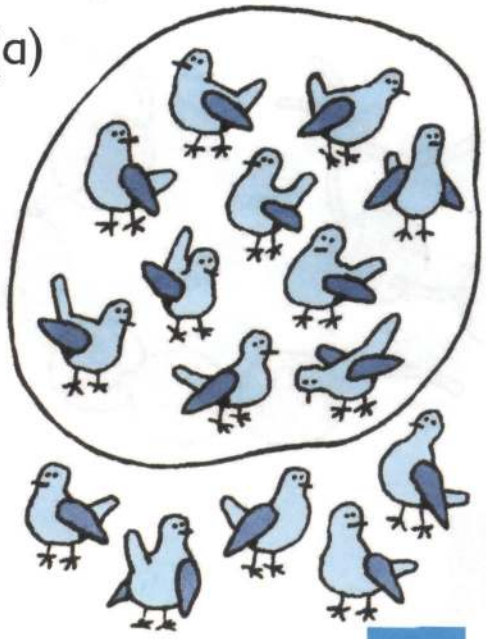
3. (a) How many stamps are there?

(b) 10 and 4 make ____ .

(c) 10 + 4 = ____

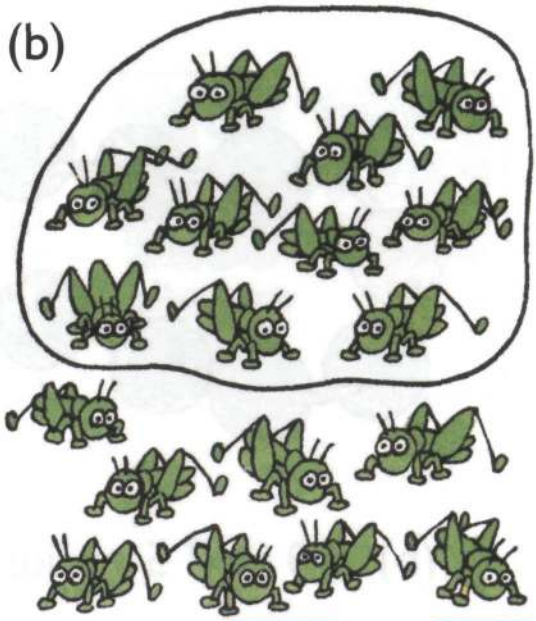
4. Complete the addition sentences.

(a)



10 + 5 = ☐

(b)

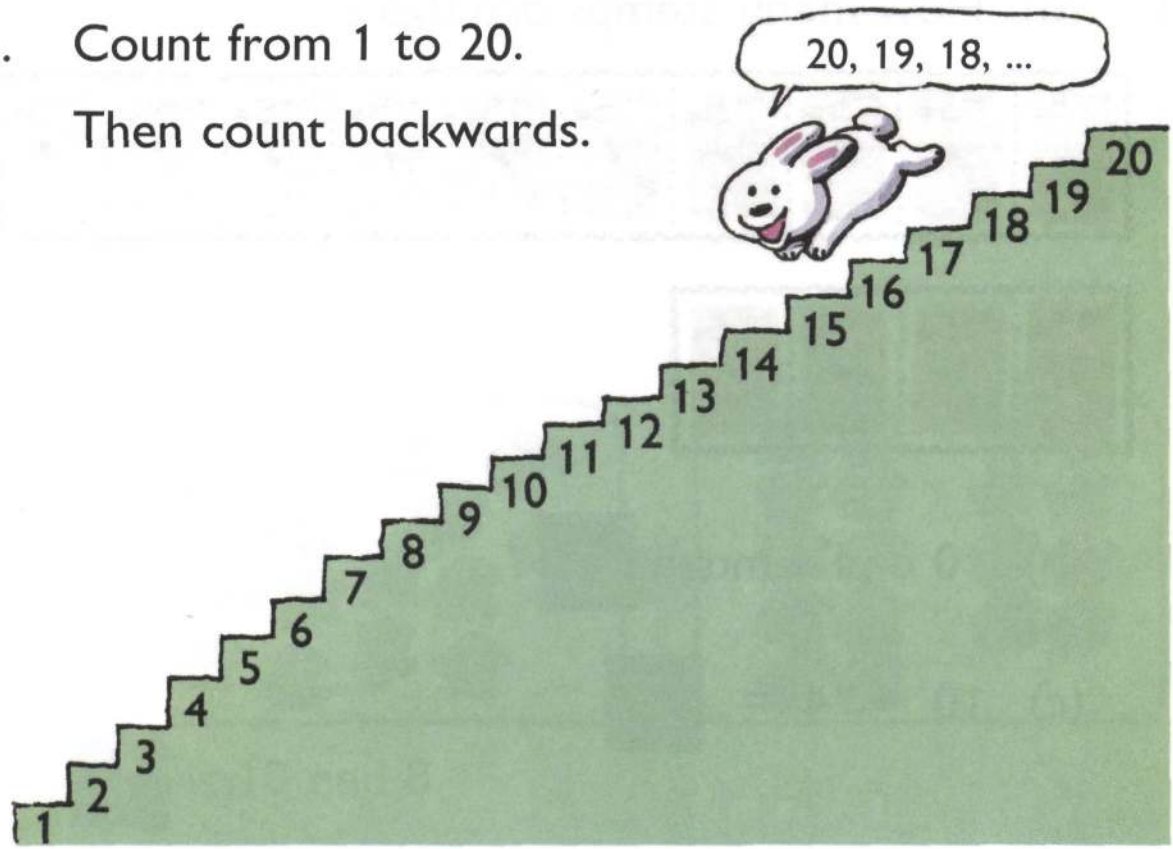


10 + ☐ = ☐

Workbook Exercise 37

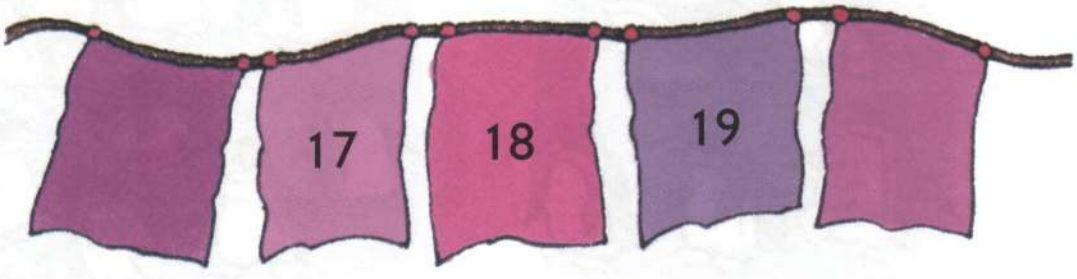
5. Count from 1 to 20.

Then count backwards.

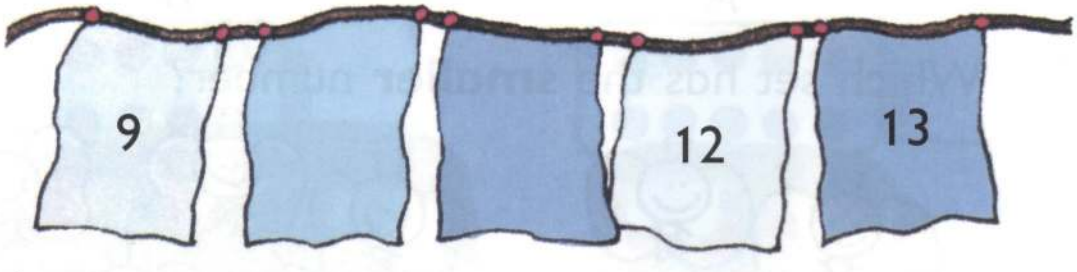


6. What are the missing numbers?

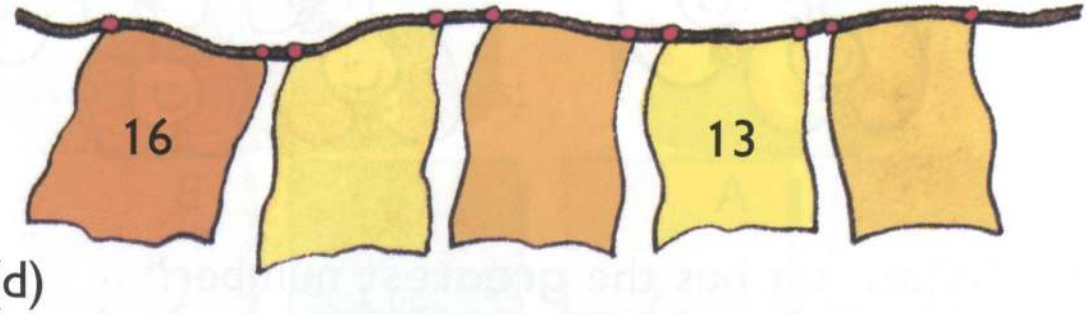
(a)



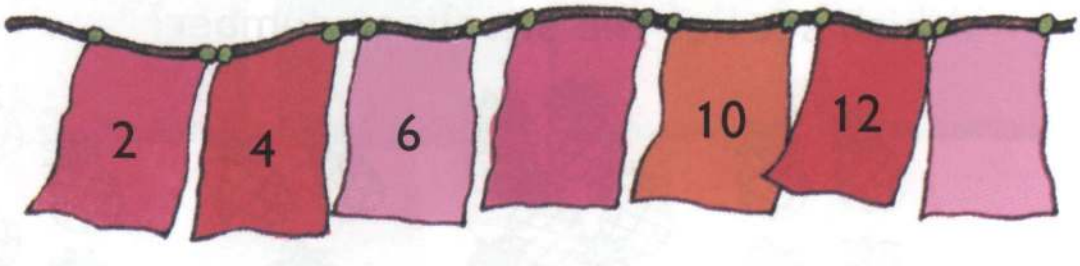
(b)



(c)



(d)

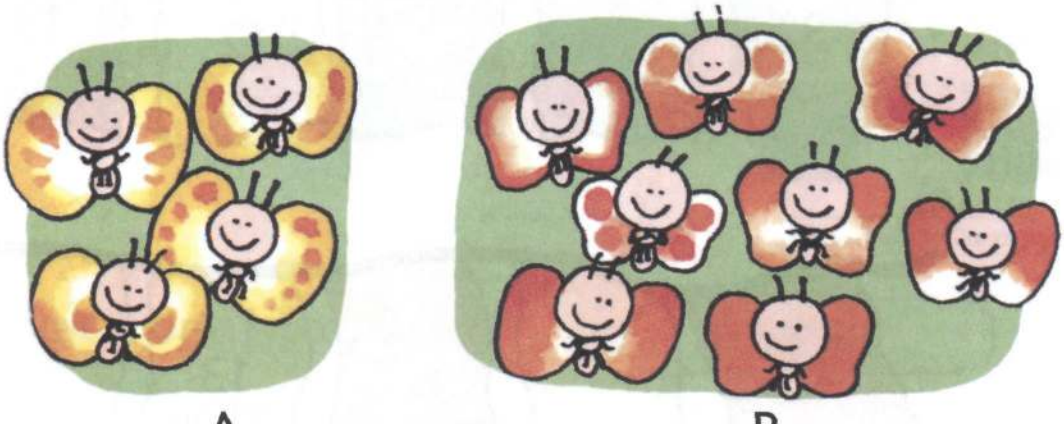


(e)

7. Which set has the **greater** number?

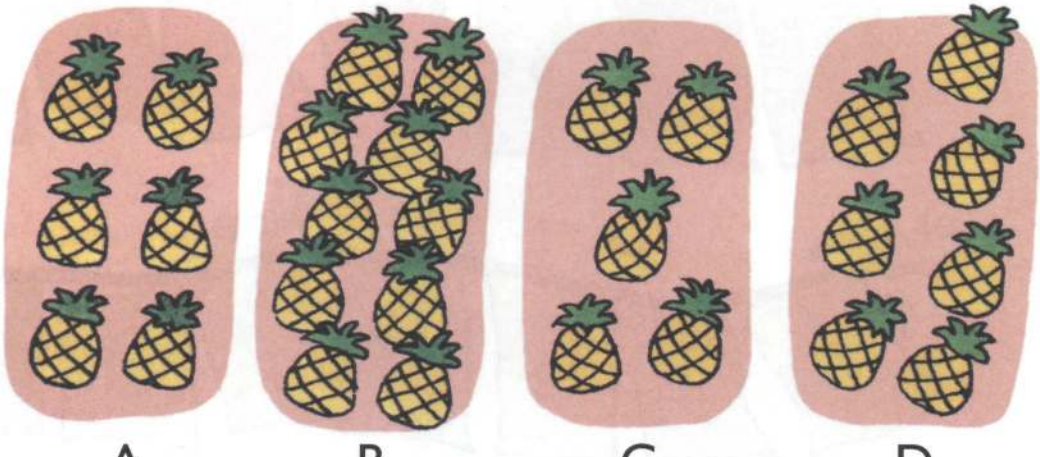
A B

8. Which set has the **smaller** number?



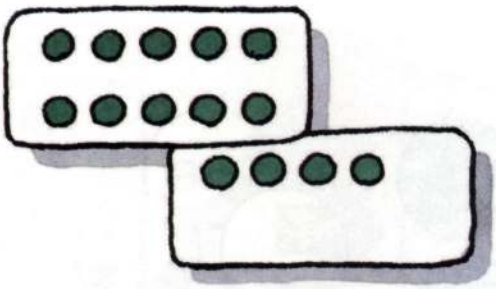
A B

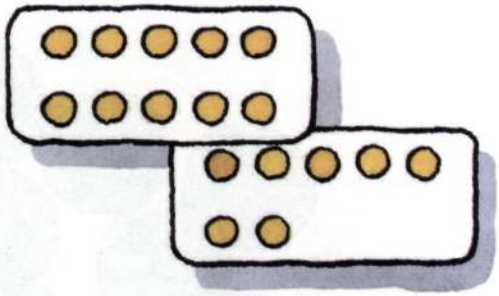
9. Which set has the **greatest** number?
Which set has the **smallest** number?



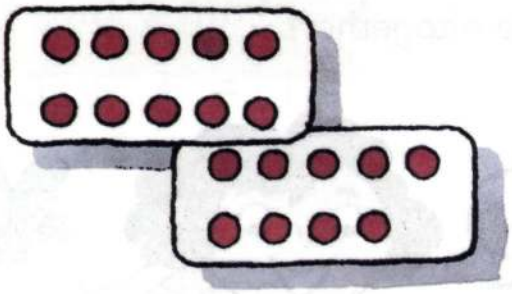
A B C D

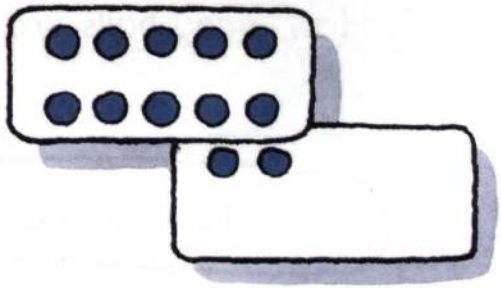
10. (a) Which is greater, 14 or 17?



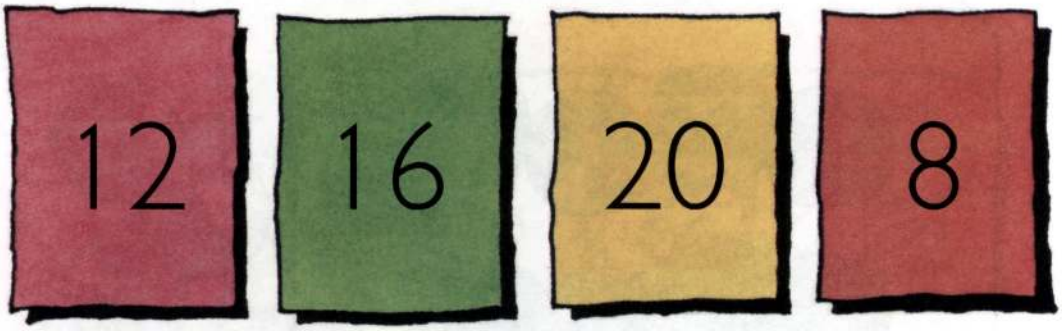


(b) Which is smaller, 19 or 12?





11. Compare these numbers:

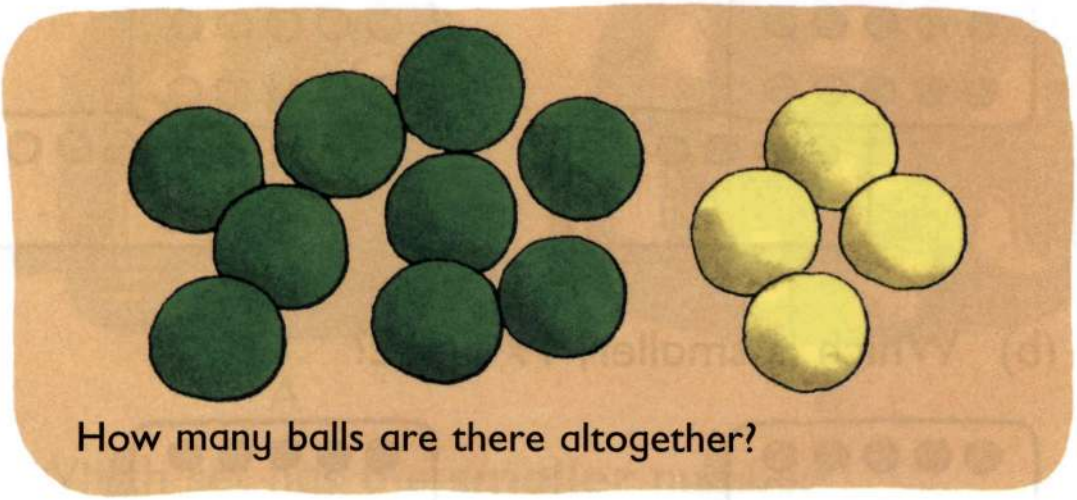


(a) Which number is the greatest?

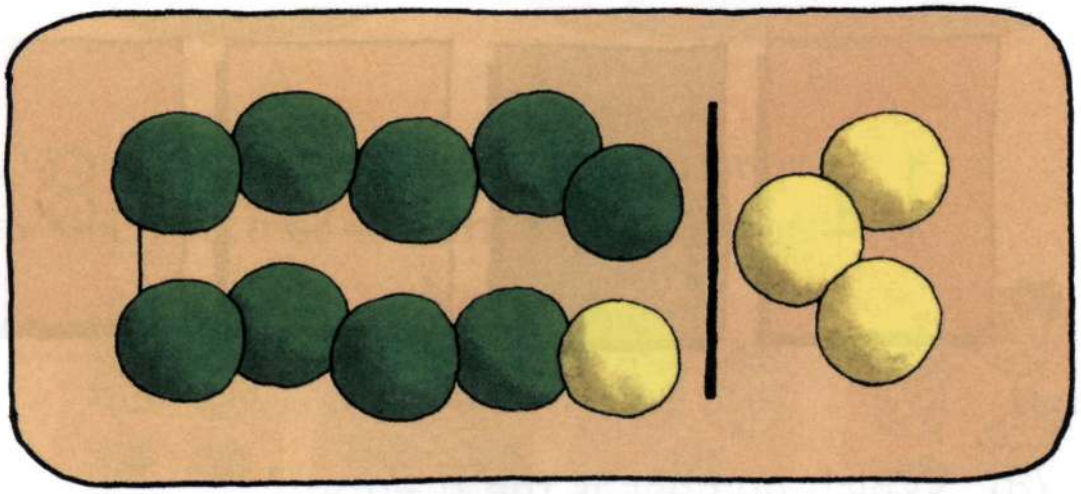
(b) Which number is the smallest?

(c) Arrange the numbers in order. Begin with the smallest.

2 Addition and Subtraction

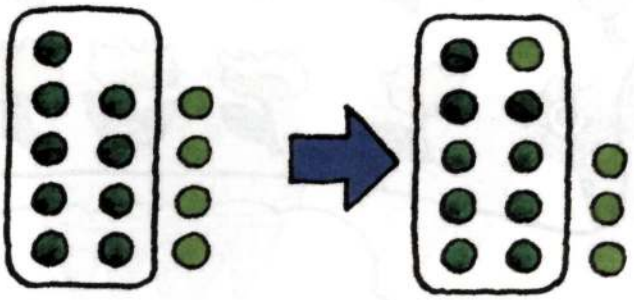


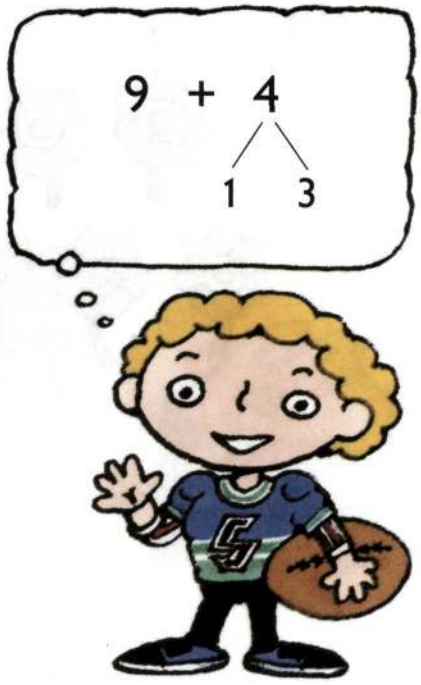
How many balls are there altogether?



9 + 4 = ☐

There are ☐ balls altogether.



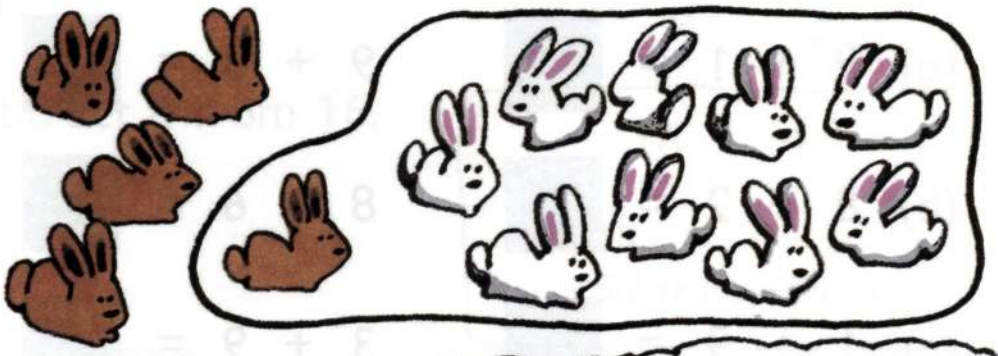


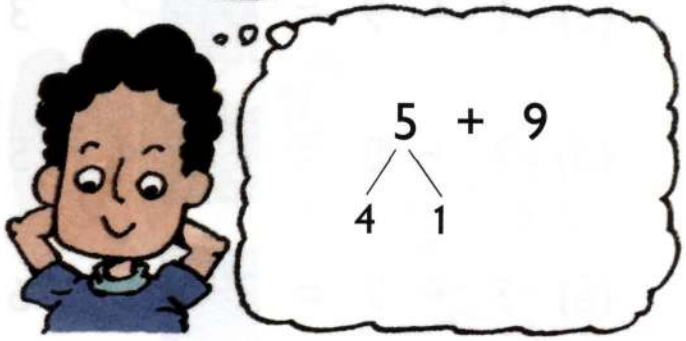
9 and 1 make 10.

10 + 3 = 13

1. Add by making 10 first.

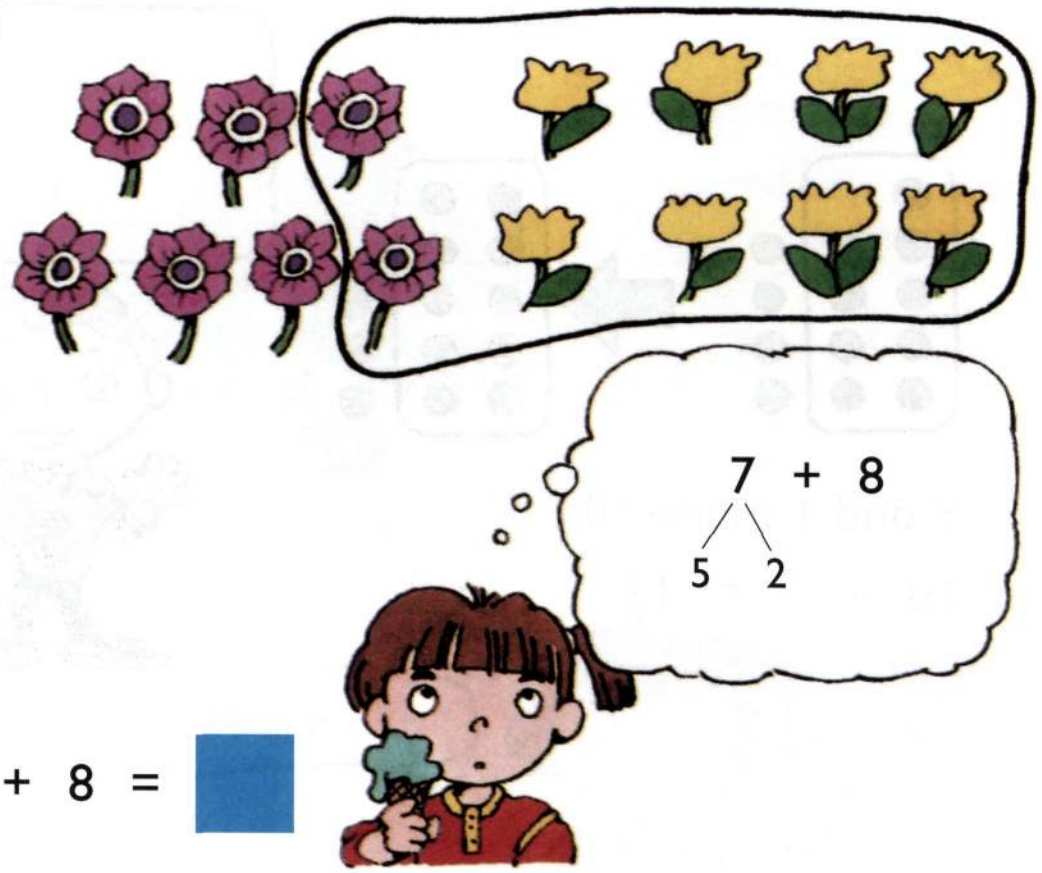
(a)





5 + 9 =

(b)



7 + 8 = ☐

2. Complete the addition sentences.

(a) 9 + 1 = ☐ 9 + 8 = ☐

(b) 8 + 2 = ☐ 8 + 6 = ☐

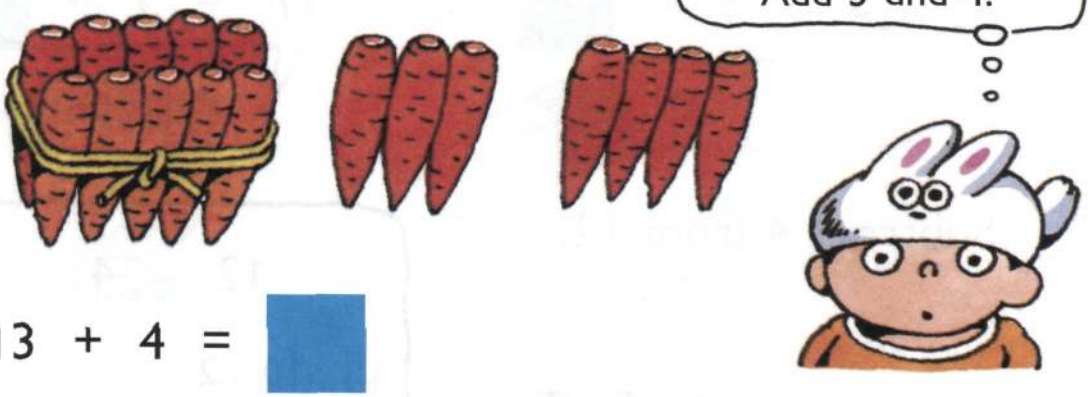
(c) 1 + 9 = ☐ 3 + 9 = ☐

(d) 2 + 8 = ☐ 5 + 8 = ☐

(e) 3 + 7 = ☐ 6 + 7 = ☐

Workbook Exercises 40 & 41

3. Add 13 and 4.



13 + 4 = ☐

4. Complete the addition sentences.

(a) 5 + 4 = 9

15 + 4 = ☐

5 + 14 = ☐

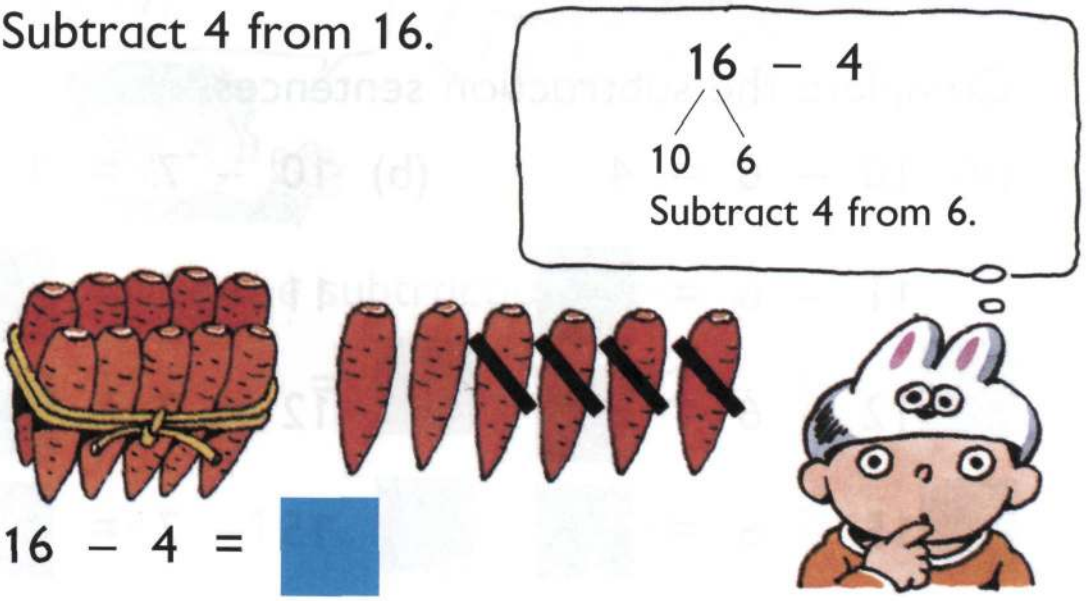
(b) 2 + 8 = 10

12 + 8 = ☐

2 + 18 = ☐

Workbook Exercise 42

5. Subtract 4 from 16.



16 − 4 = ☐

6. Complete the subtraction sentences.

(a) $8 - 3 = 5$

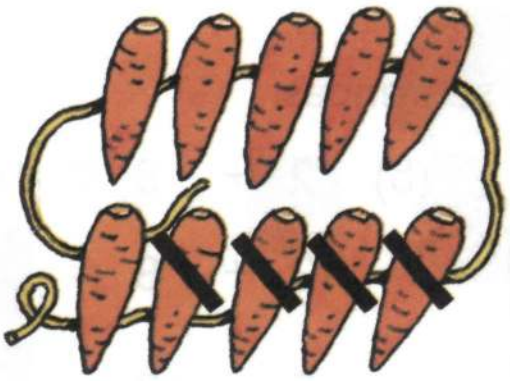
$18 - 3 =$ ☐

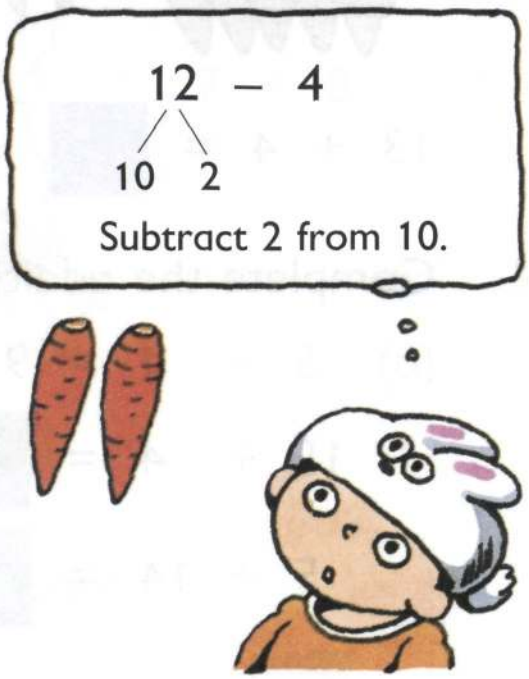
(b) $7 - 5 = 2$

$17 - 5 =$ ☐

Workbook Exercise 43

7. Subtract 4 from 12.





$12 - 4 =$ ☐

8. Complete the subtraction sentences.

(a) $10 - 6 = 4$

$11 - 6 =$ ☐

$12 - 6 =$ ☐

$15 - 6 =$ ☐

(b) $10 - 7 = 3$

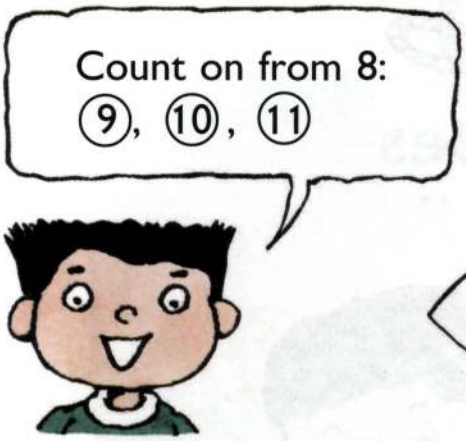
$11 - 7 =$ ☐

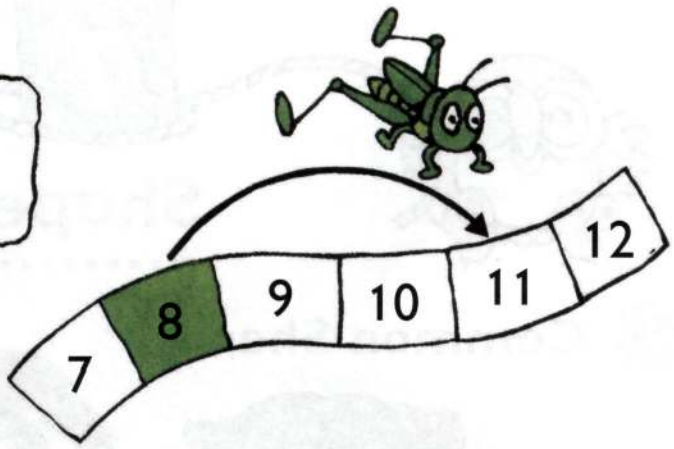
$12 - 7 =$ ☐

$15 - 7 =$ ☐

Workbook Exercise 44

9. Add 8 and 3.



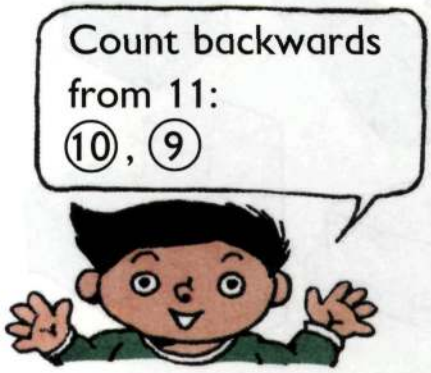


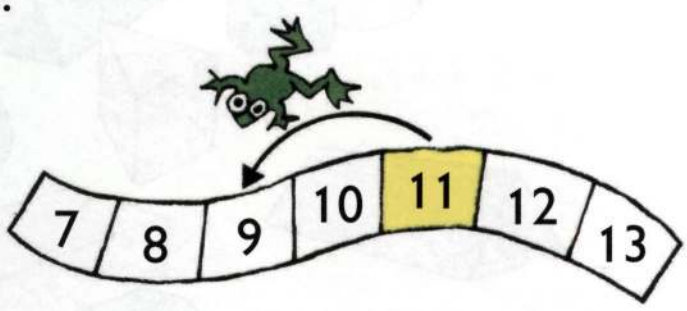
10. Complete the addition sentences.

(a) 9 + 2 = ☐ (b) 9 + 3 = ☐

(c) 15 + 1 = ☐ (d) 17 + 2 = ☐

11. Subtract 2 from 11.





12. Complete the subtraction sentences.

(a) 11 − 3 = ☐ (b) 12 − 3 = ☐

(c) 14 − 1 = ☐ (d) 18 − 2 = ☐

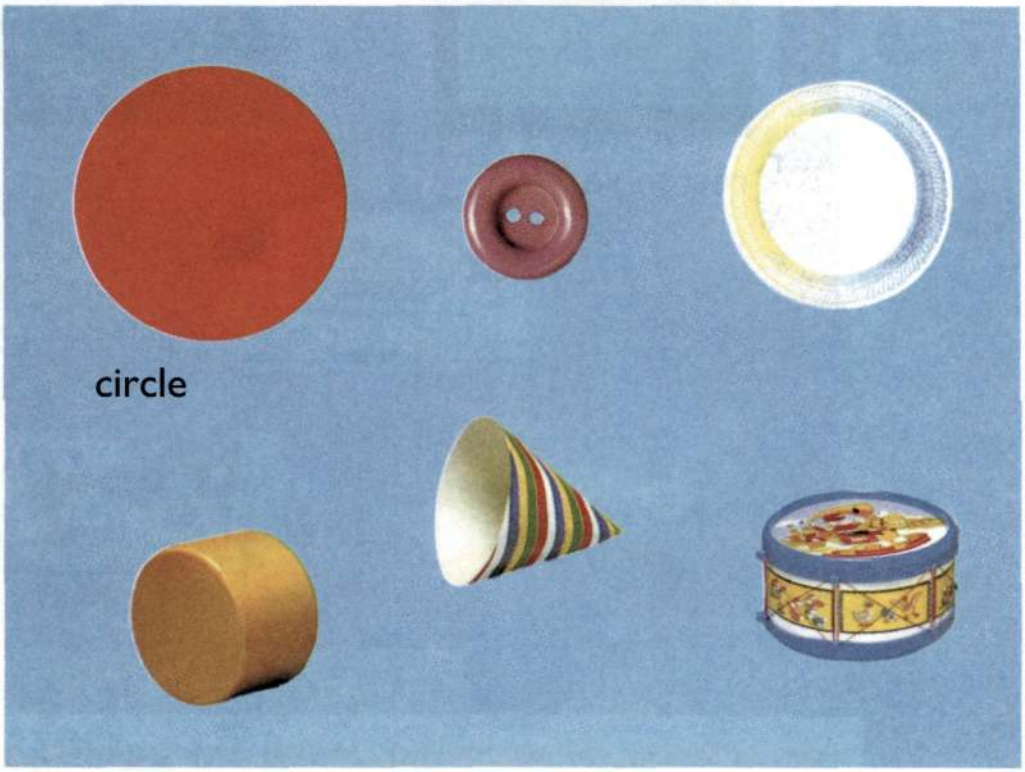
Workbook Exercises 45 to 49

7 Shapes

1 Common Shapes

1. Compare the objects in each set with the given shape.

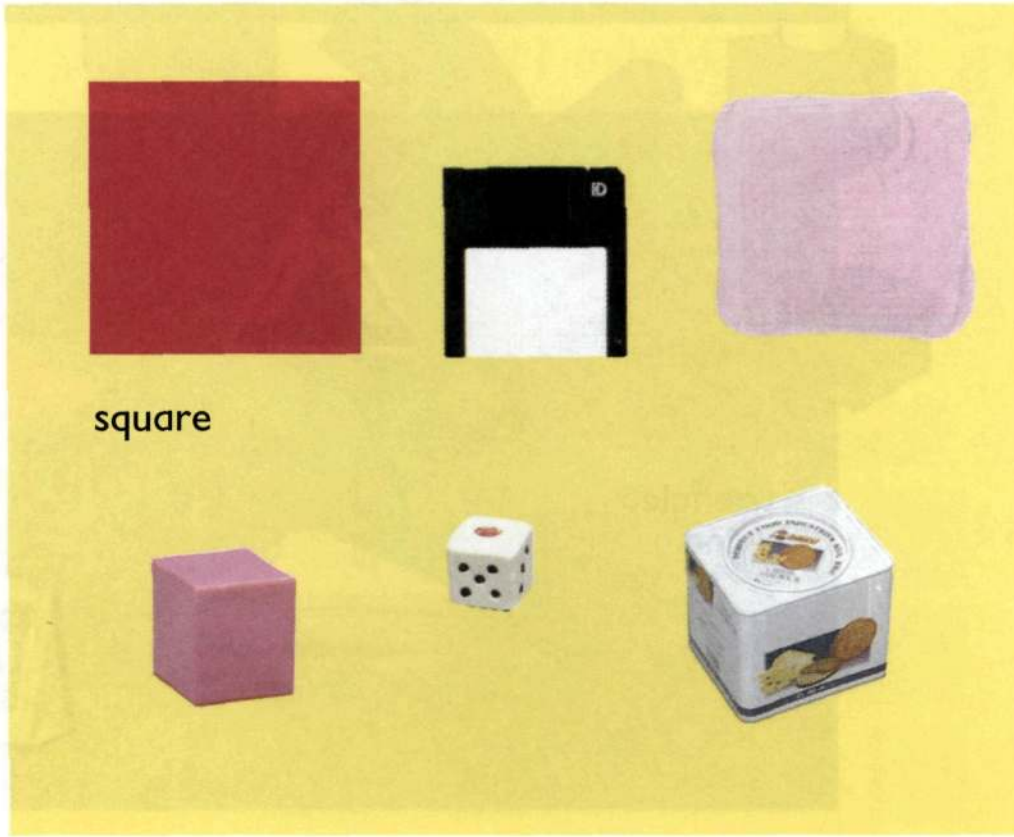
(a)



(b)

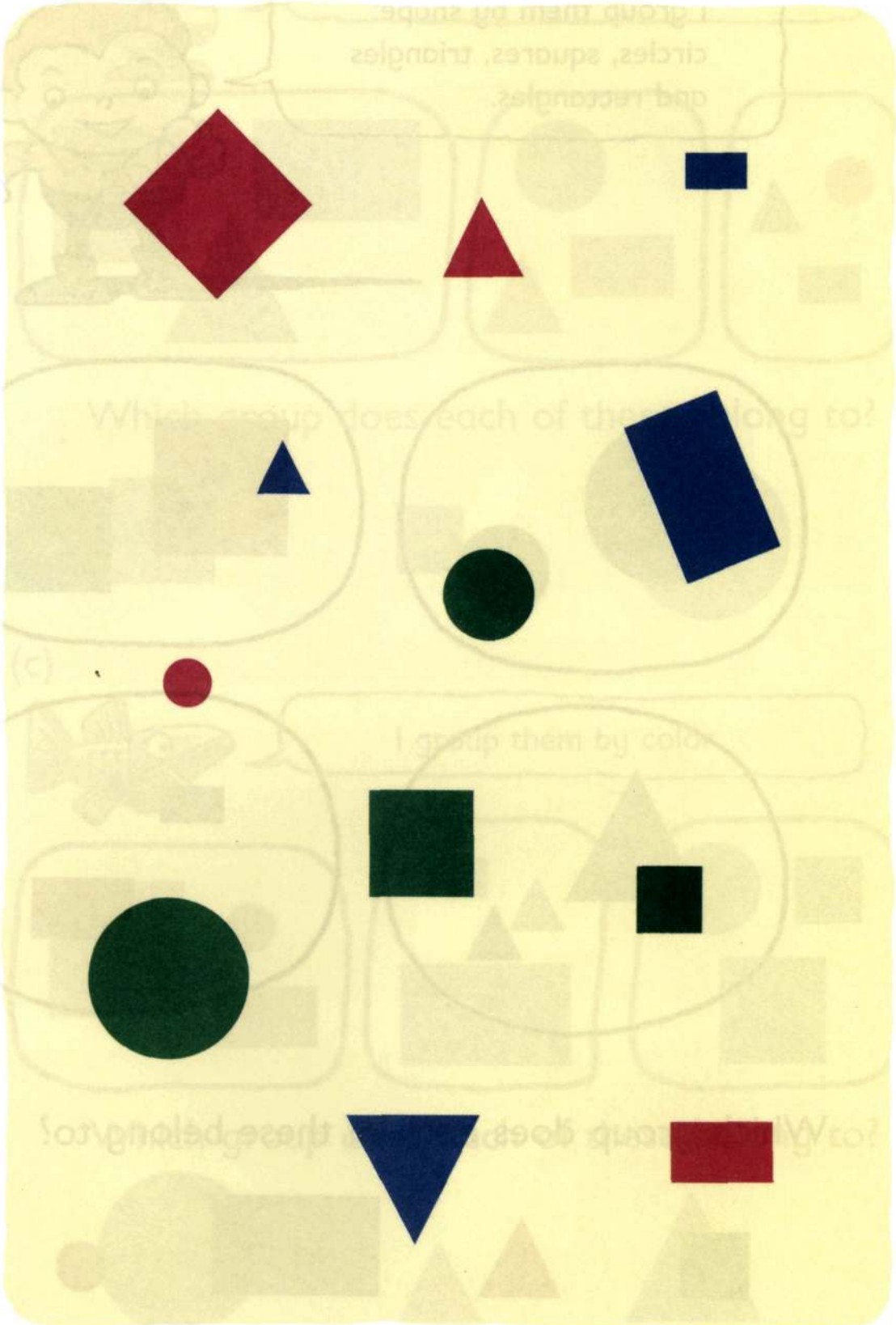
(c)

(d)

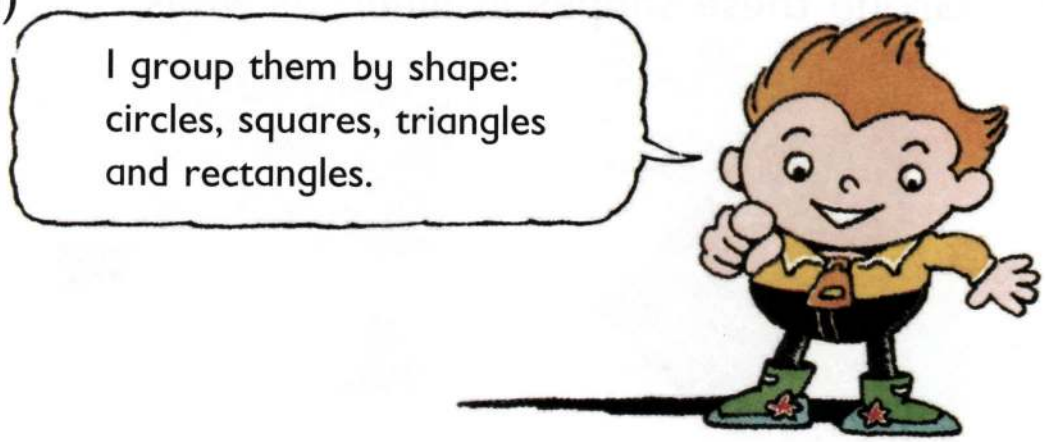


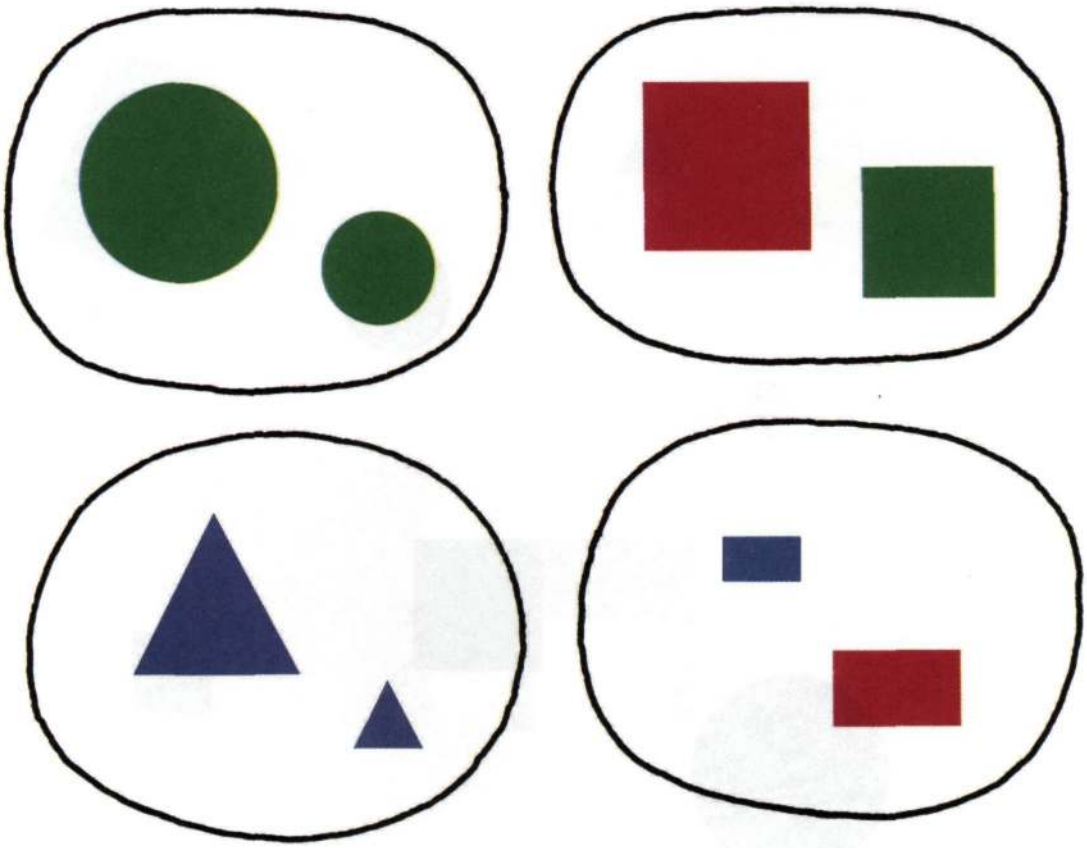
Workbook Exercises 50 & 51

2. Group these shapes in different ways.



(a)

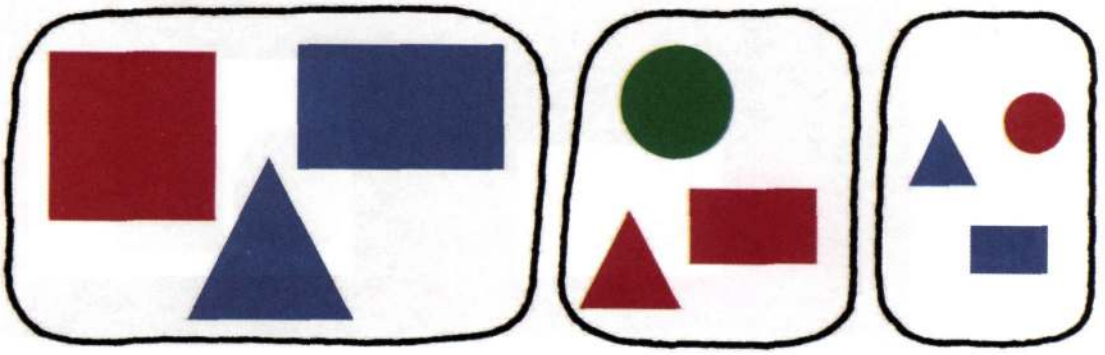




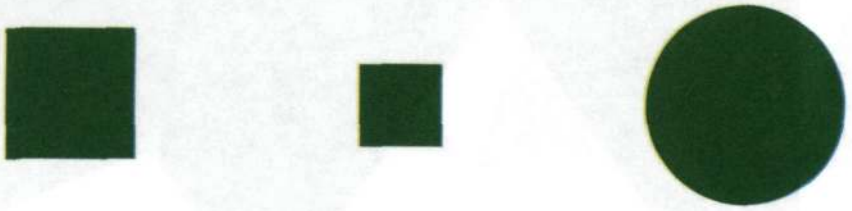
Which group does each of these belong to?

(b)

I group them by size.

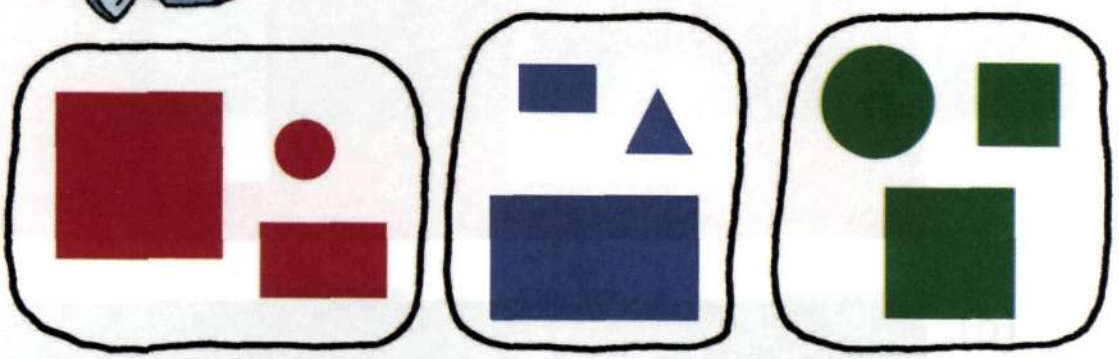


Which group does each of these belong to?

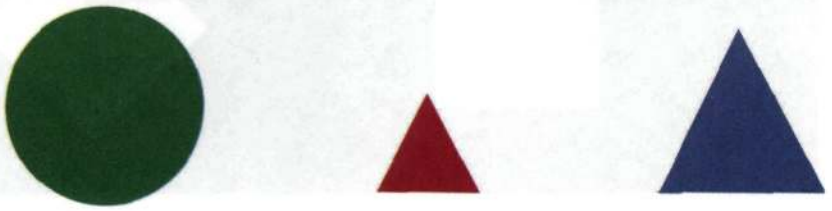


(c)

I group them by color.



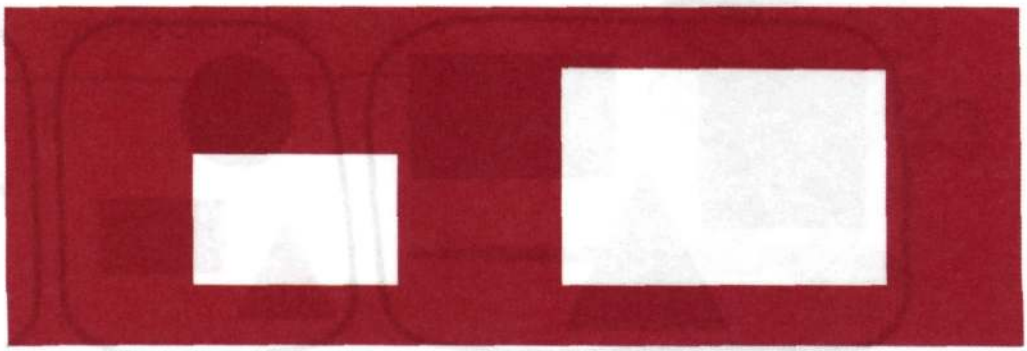
Which group does each of these belong to?



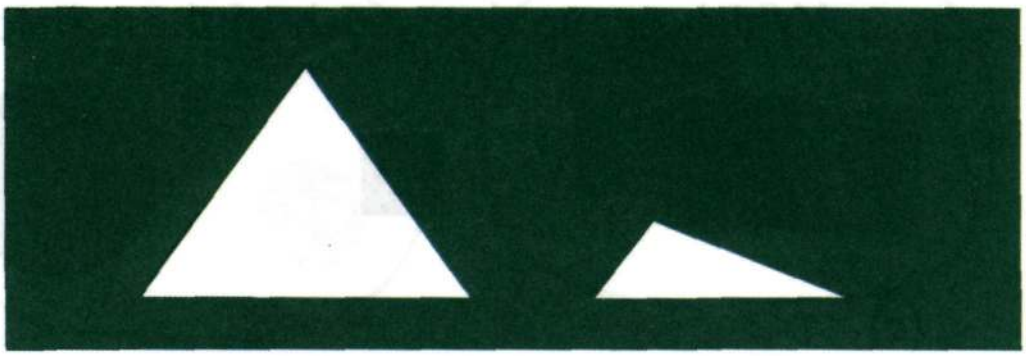
Workbook Exercises 52 & 53

3. Are the holes of the same shape?
Are they of the same size?

(a)

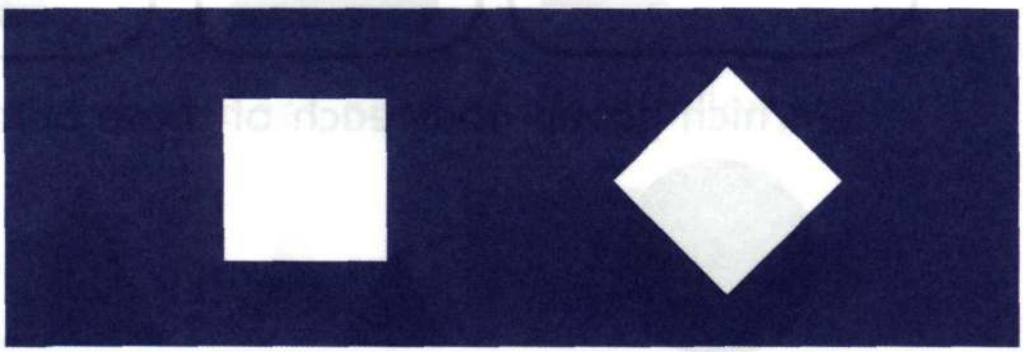


(b)



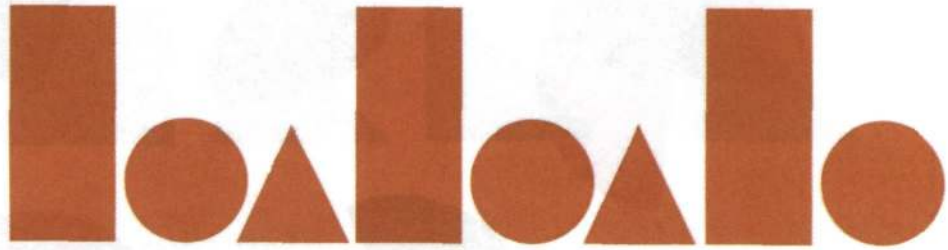
(c)

(d)

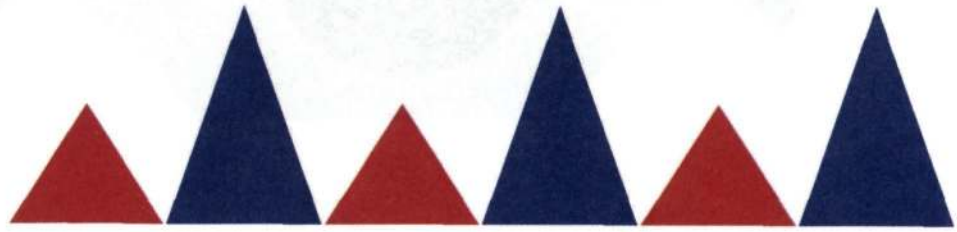


4. These are patterns of shapes.
What comes next in each pattern?

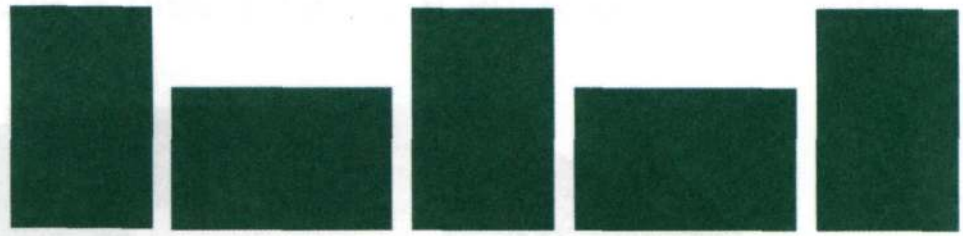
(a)



(b)



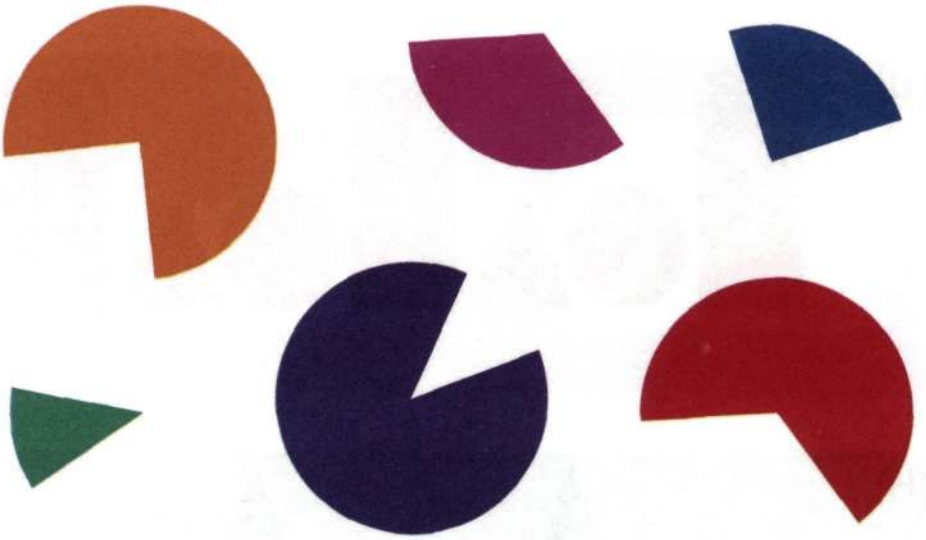
(c)



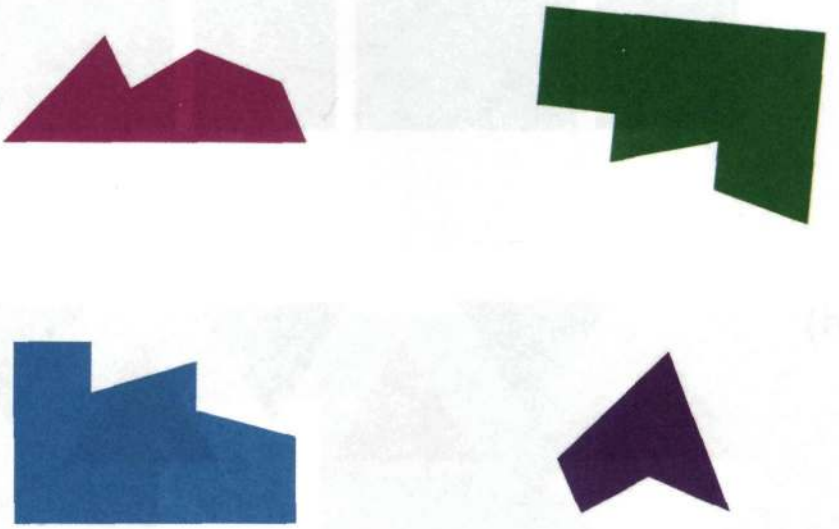
(d)

Workbook Exercise 54

5. Pair up these pieces to form 3 circles.



6. Pair up these pieces to form a square and a triangle.



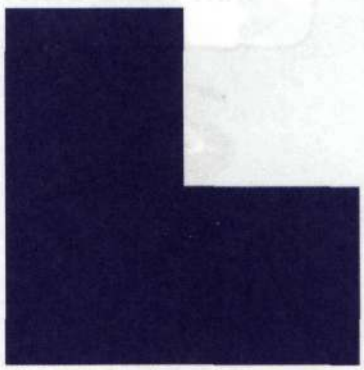
7. We can fit these 4 pieces together to form a shape.

Here is an example:

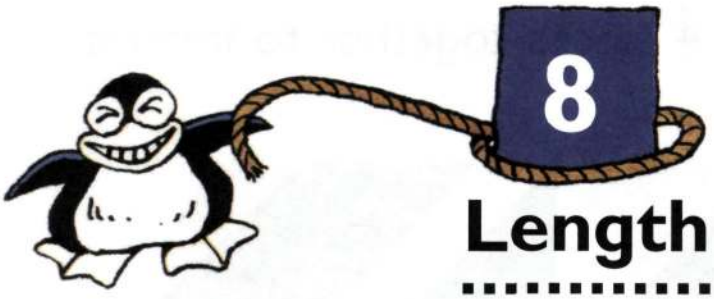
Trace the 4 pieces on a piece of paper and cut them out.
Use the 4 pieces to form each of these shapes.

(a)

(b)



Workbook Exercise 55



8 Length

1 Comparing Length

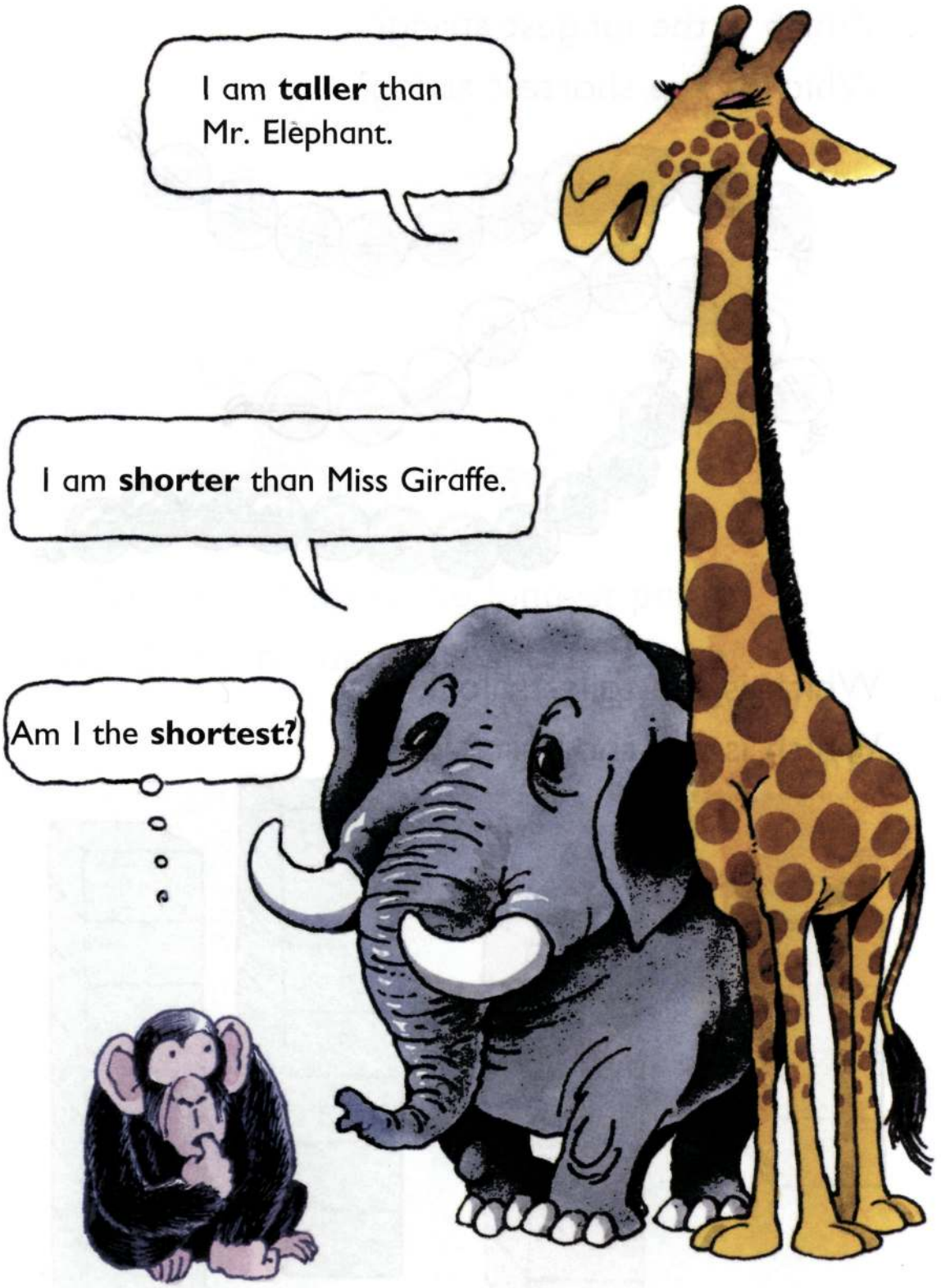
I am **longer** than Miss Caterpillar.

I am **shorter** than Mr. Snake.

Am I the **shortest?**

Who is the **longest?**

Who is the **shortest?**

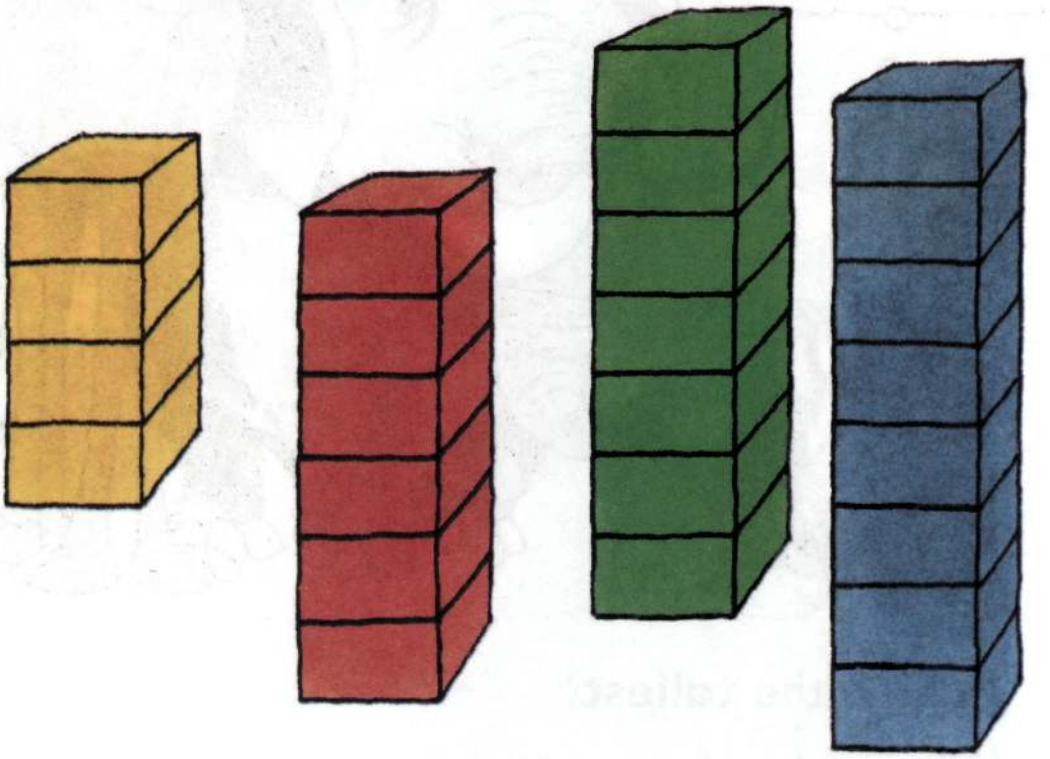


Who is the **tallest**?

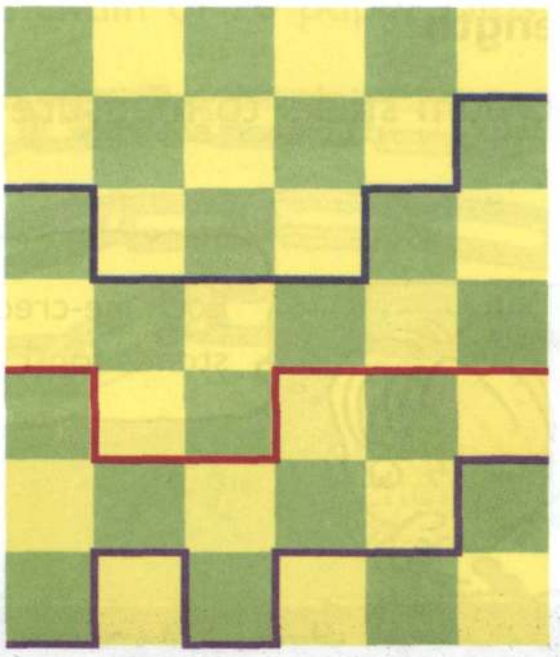
Who is the **shortest**?

1. Which is the longest string?
   Which is the shortest string?

2. Which is the tallest block?
   Which is the shortest block?



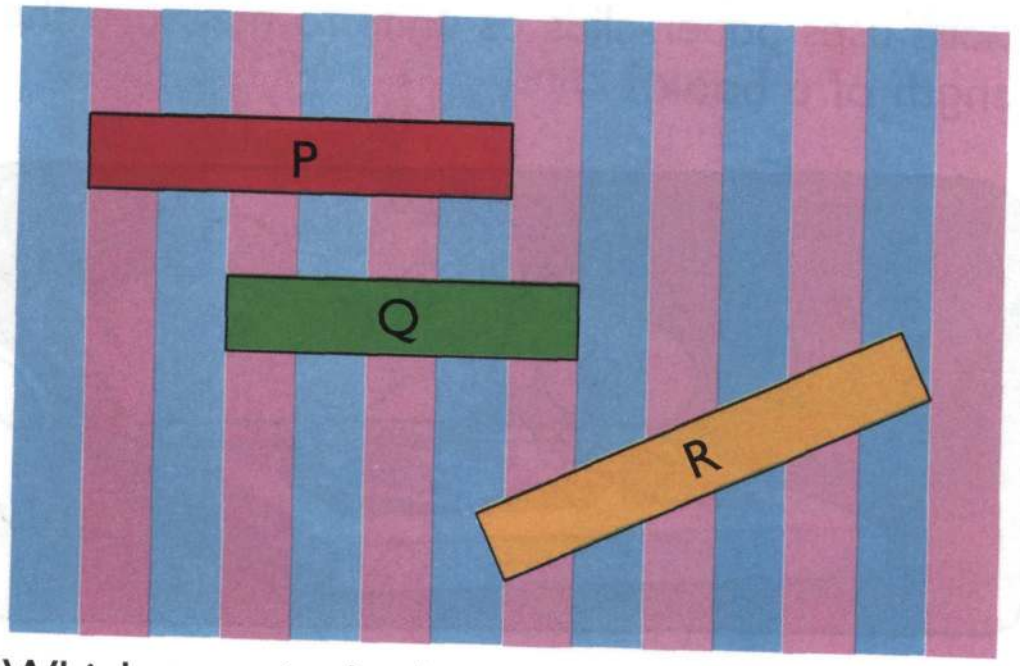
3.



Which worm takes the longest path?

Which worm takes the shortest path?

4.



Which tape is the longest?

Which tape is the shortest?

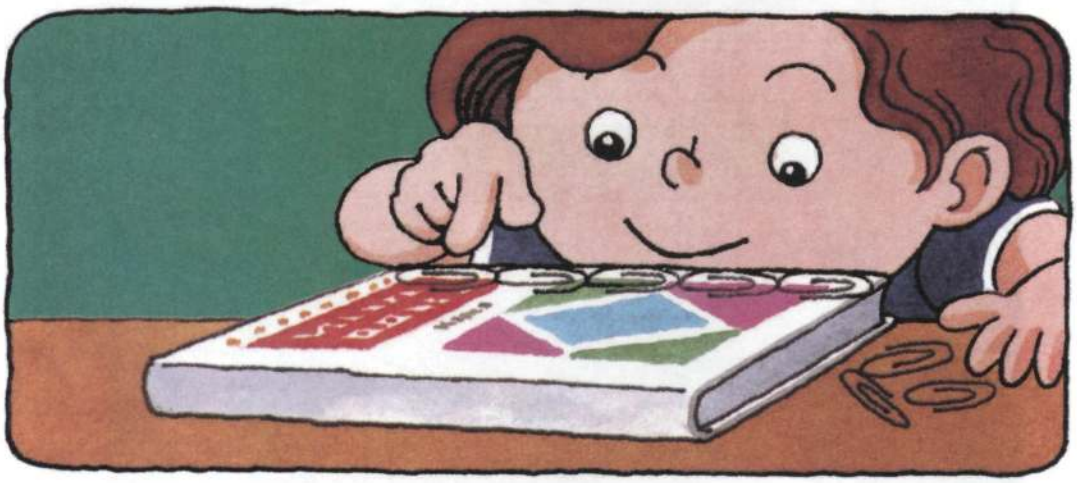
Workbook Exercises 56 & 57

2 Measuring Length

John uses ice-cream sticks to measure the length of a table.

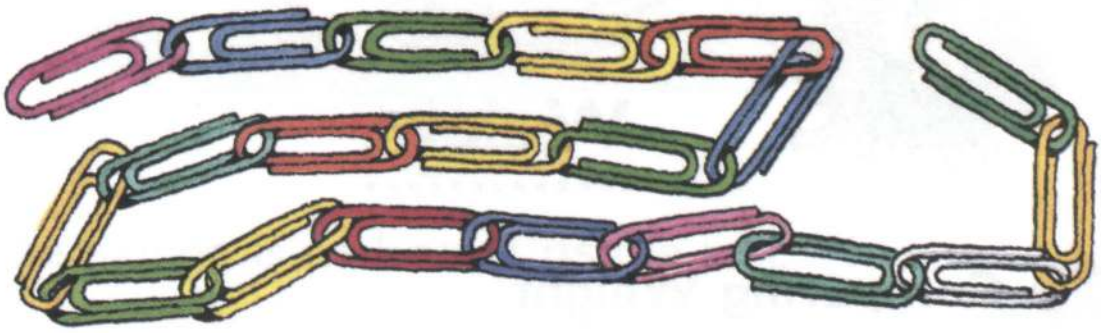
The length of the table is about 12 units.

1. Mary uses paper-clips as units to measure the length of a book.



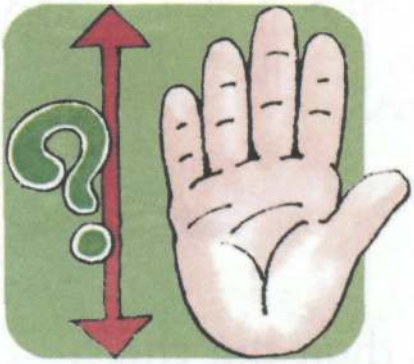
The length of the book is about ____ units.

2. Make a chain of 20 paper clips like this:



(a) The length of the chain is ____ units.

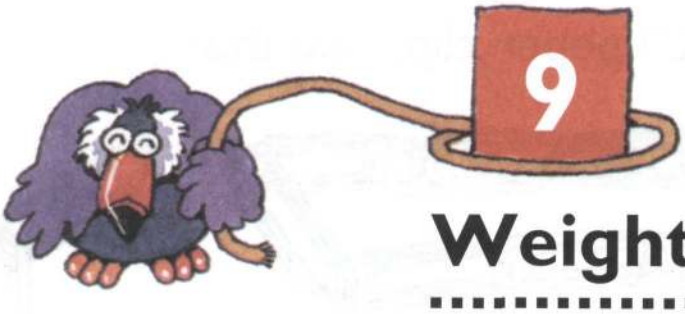
(b) Use the chain to measure your hand and your foot.



My hand is about ____ units long.

My foot is about ____ units long.

(c) Which is longer, your hand or your foot?

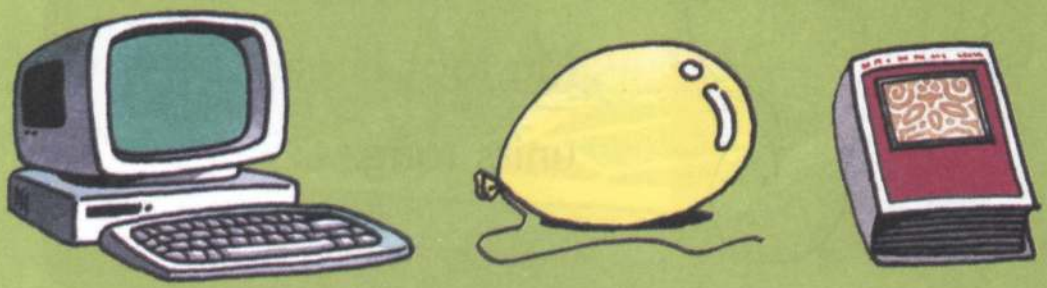


9 Weight

1 Comparing Weight

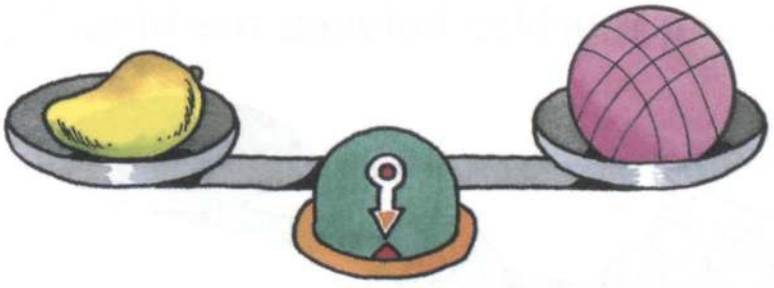
The cupboard is **heavier** than the chair.

The chair is **lighter** than the cupboard.

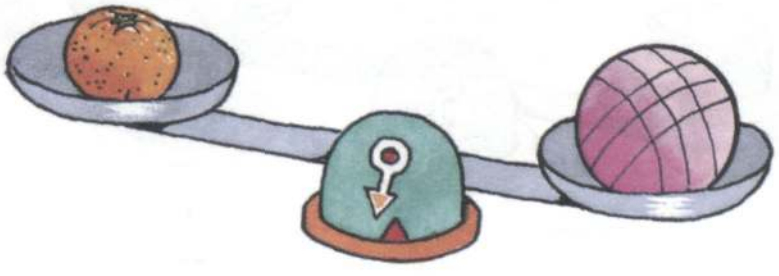


Which is the **lightest**?

Which is the **heaviest**?



The mango is **as heavy as** the ball.

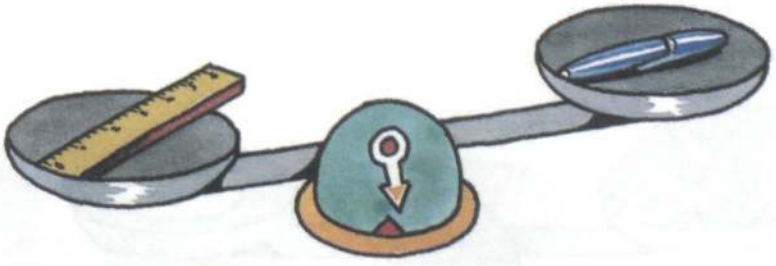


The orange is **lighter** than the ball.

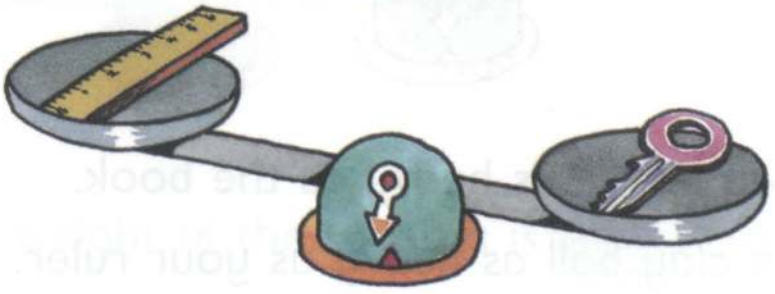
The ball is **heavier** than the orange.

1. Which weighs more?

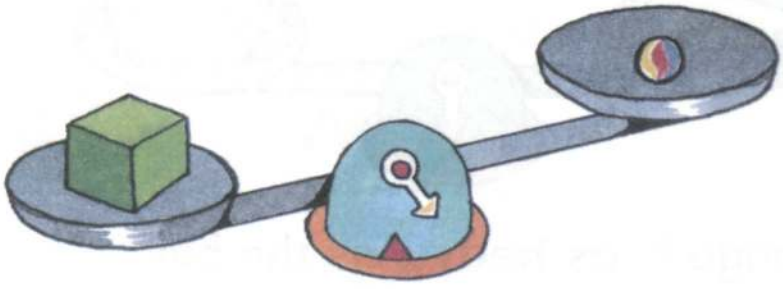
(a)

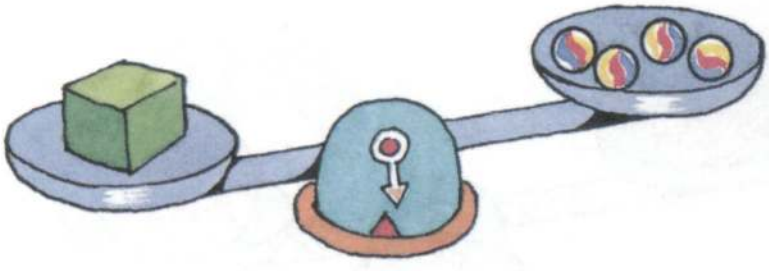


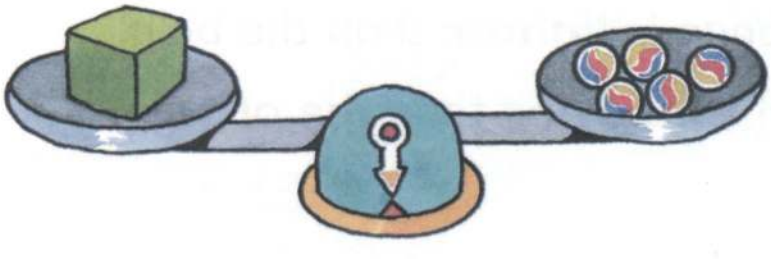
(b)



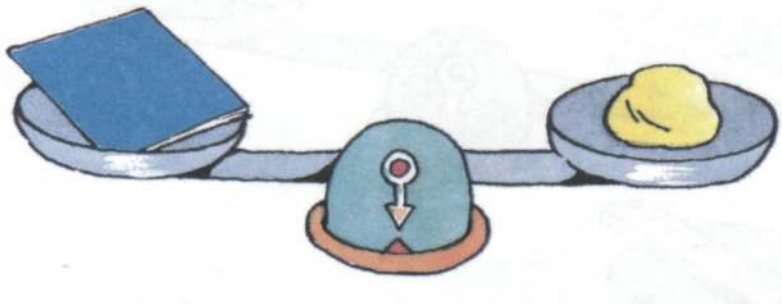
2. How many marbles balance the block?







3.

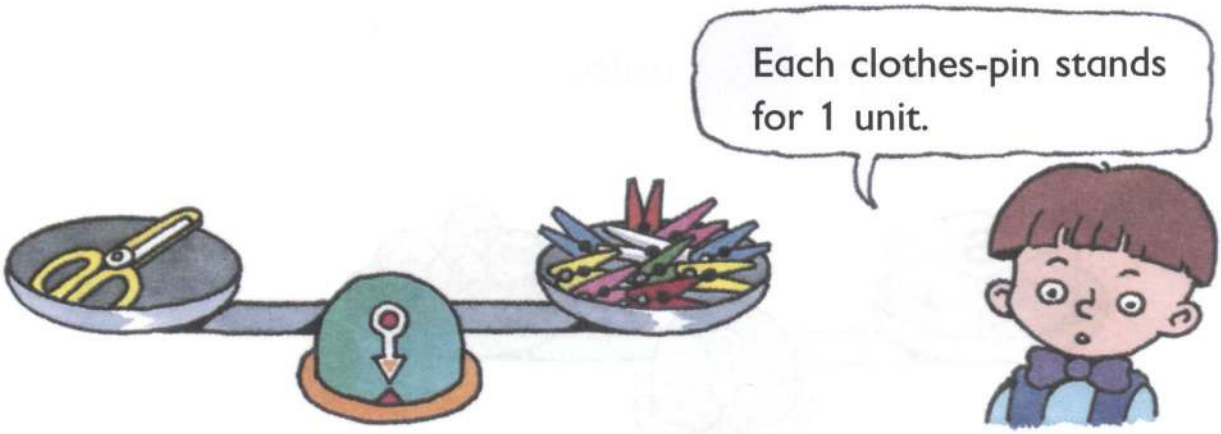


The clay ball is as heavy as the book.

Make a clay ball as heavy as your ruler.

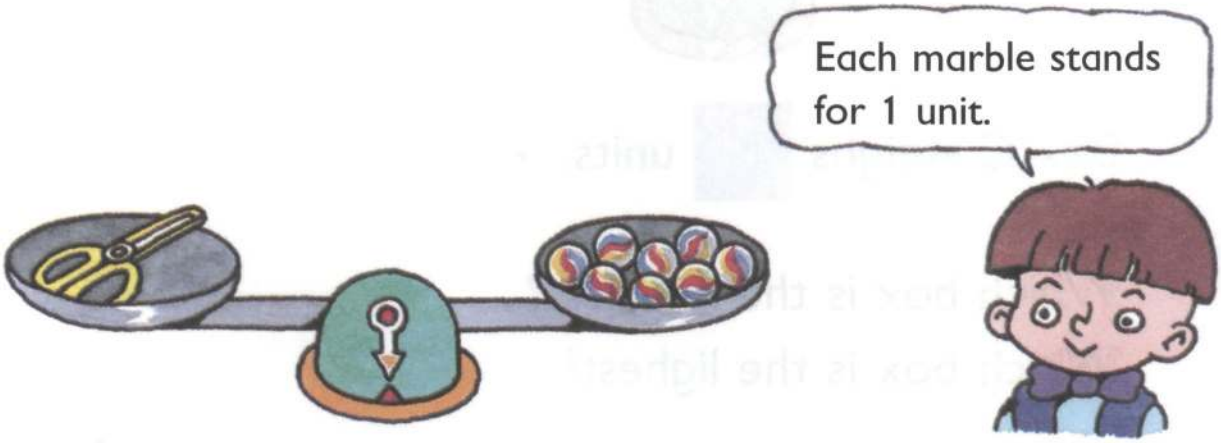
2 Measuring Weight

Matthew uses clothes-pins to measure the weight of a pair of scissors.



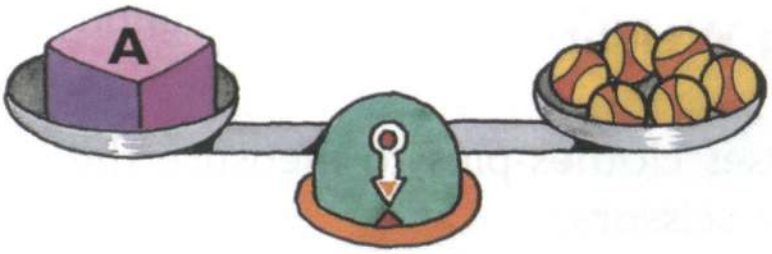
The weight of the scissors is _____ units.

Then he uses marbles to measure the weight of the same pair of scissors.

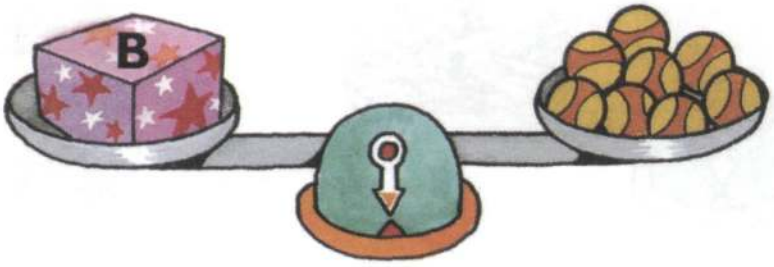


The weight of the scissors is _____ units.

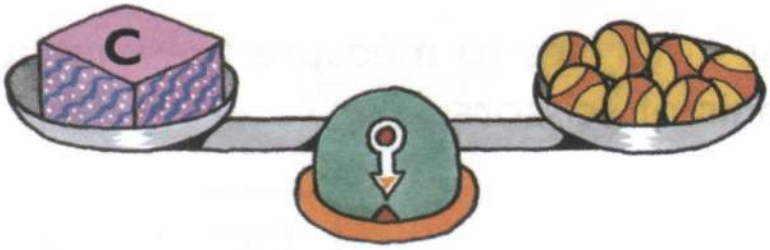
1.



Box A weighs ____ units.



Box B weighs ____ units.



Box C weighs ____ units.

Which box is the heaviest?

Which box is the lighest?

2. Find out how many marbles balance your pencil box.

Workbook Exercises 60 & 61

Adapted from Primary Mathematics 1A Textbook by Ministry of Education, Singapore

Marshall Cavendish Education

ISBN 981-01-8494-8

9 789810 184940