THINKING 2A MATHEMATICS WORKBOOK 2

Consultants:
Prof. Foong Pui Yee • Dr. Fan Liang Huo

Authors:
Foong Pui Lin (BSc., Dip. Ed.) • Chong Yee Lin (BSc.)

shinglee publishers pte ltd

SHING LEE PUBLISHERS PTE LTD
120 Hillview Avenue #05-06/07
Kewalram Hillview Singapore 669594
e-mail: sales@shinglee.com.sg
Tel: 67601388 Fax: 67625684

First Published 2002

ISBN 981-237-025-0

Printed in Singapore by Utopia Press Pte Ltd

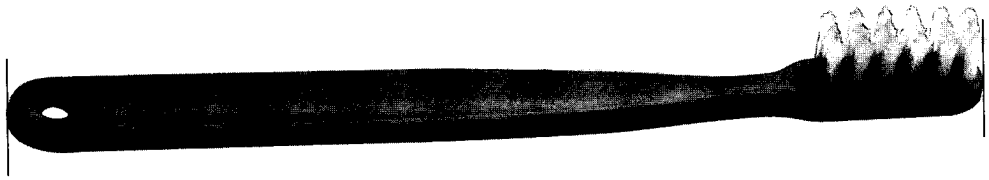
Contents

Length

Exercise one

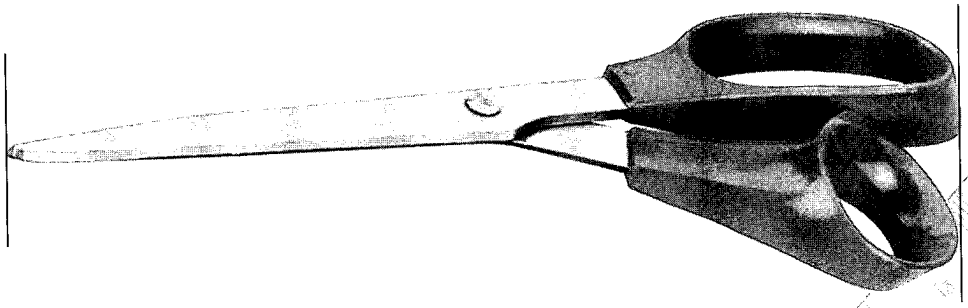
1. Measure and write the lengths of the following objects.

(a)



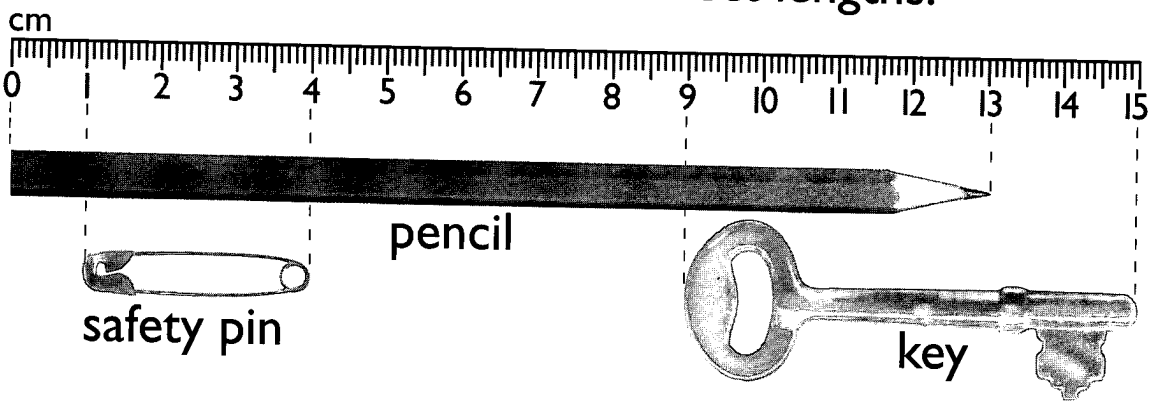
This toothbrush is _____ cm long.

(b)



This pair of scissors is _____ inches long.

2. Fill in the blanks with the correct lengths.



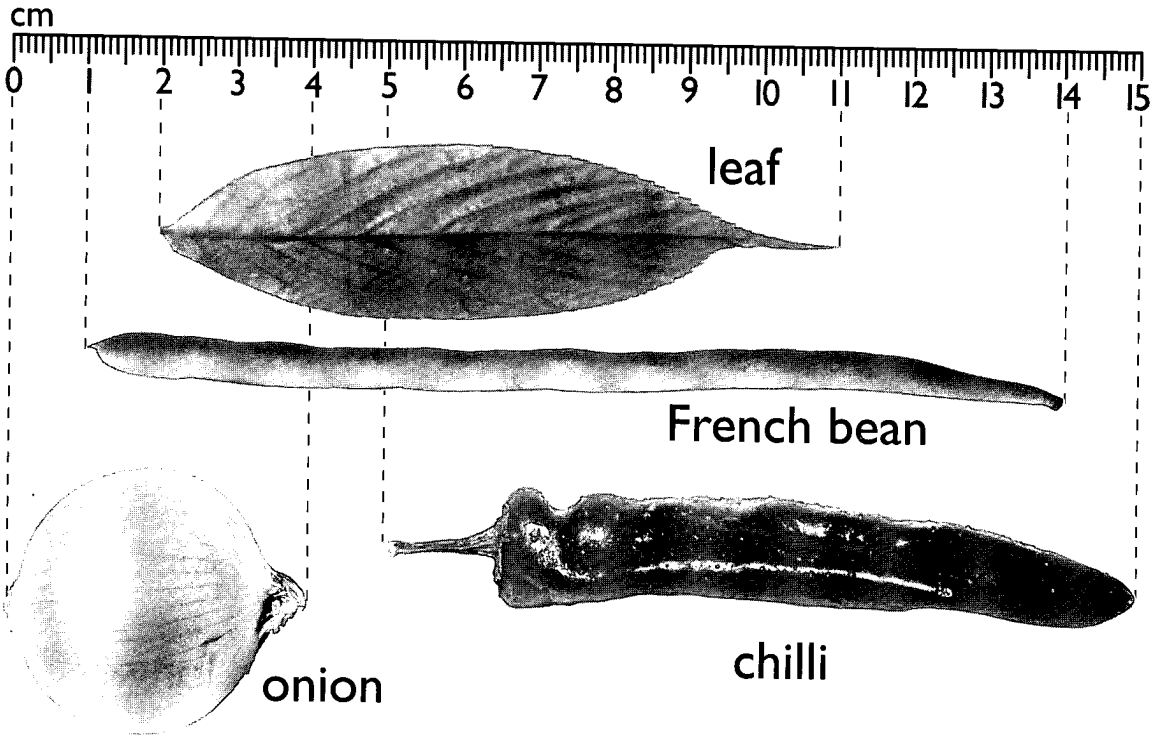
(a) The pencil is _____ cm long.

(b) The key is _____ cm long.

(c) The safety pin is _____ cm long.

(d) The pencil is longer than the key by_____ cm.

3. Fill in the blanks.



(a) The leaf is _____ cm long.

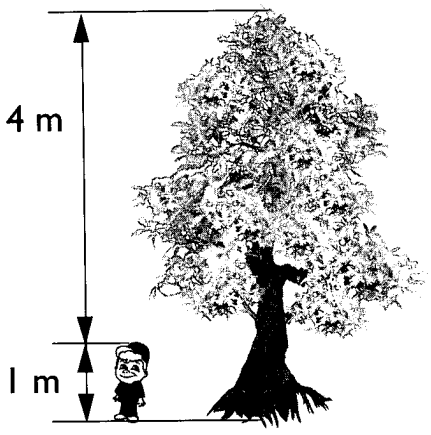
(b) The French bean is _____ cm long.

(c) The chilli is _____ cm long.

(d) The onion is _____ cm long.

(e) The French bean is longer than the chilli by _____ cm.

4. The raintree is about 4 meters taller than Amin. Amin is 1 m tall. The raintree is about _____ tall.



5. Circle the best measure.

(a) Length of a paper clip

i. 10 in ii. 1 in iii. 1 yd

(b) Height of a 12-year-old girl

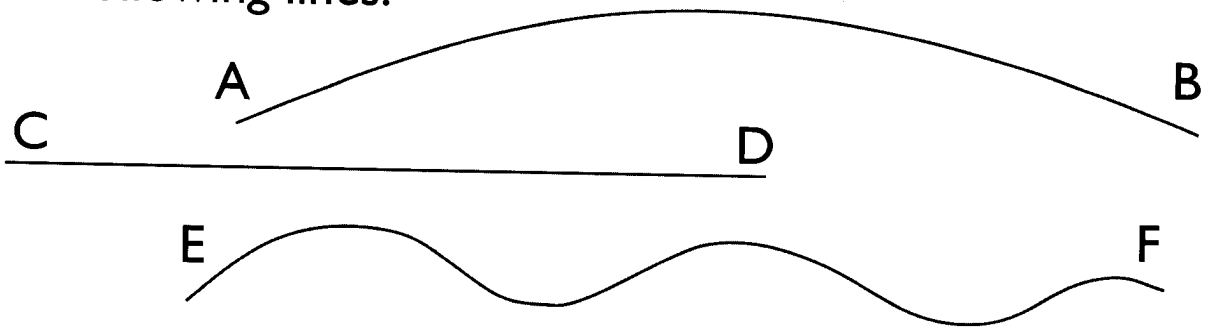
i. 121 cm ii. 200 cm iii. 12 m

(c) Length of a classroom

i. 9 yd ii. 9 in iii. 90 in

Exercise two

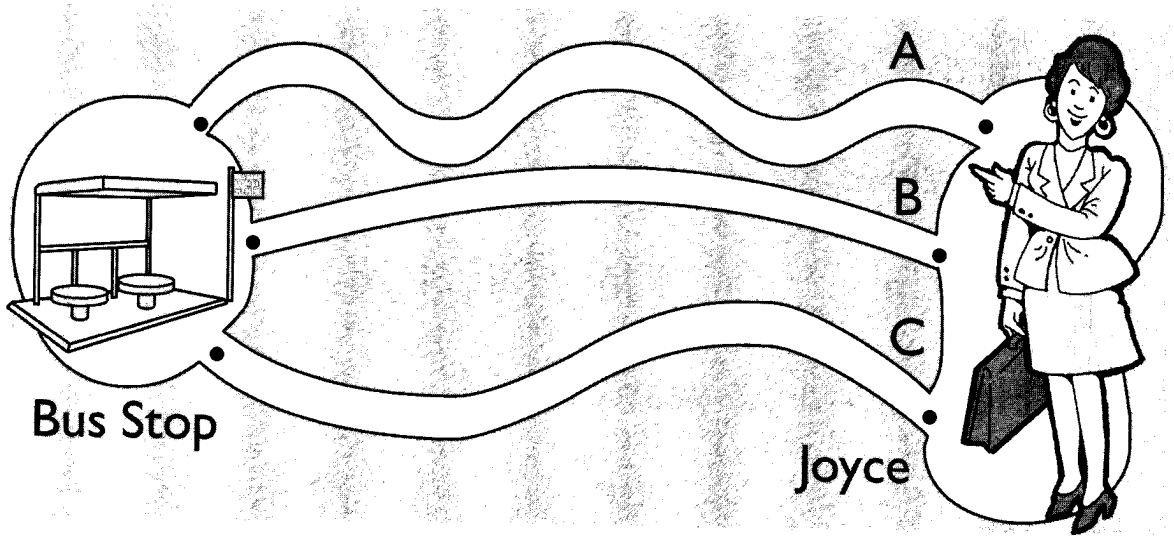
1. Use a piece of string and a ruler to measure the following lines:



(a) AB is _____ in long. (b) CD is _____ in long.

(c) EF is _____ cm long. (d) _____ is the longest line.

2. Look at the picture and answer the questions.

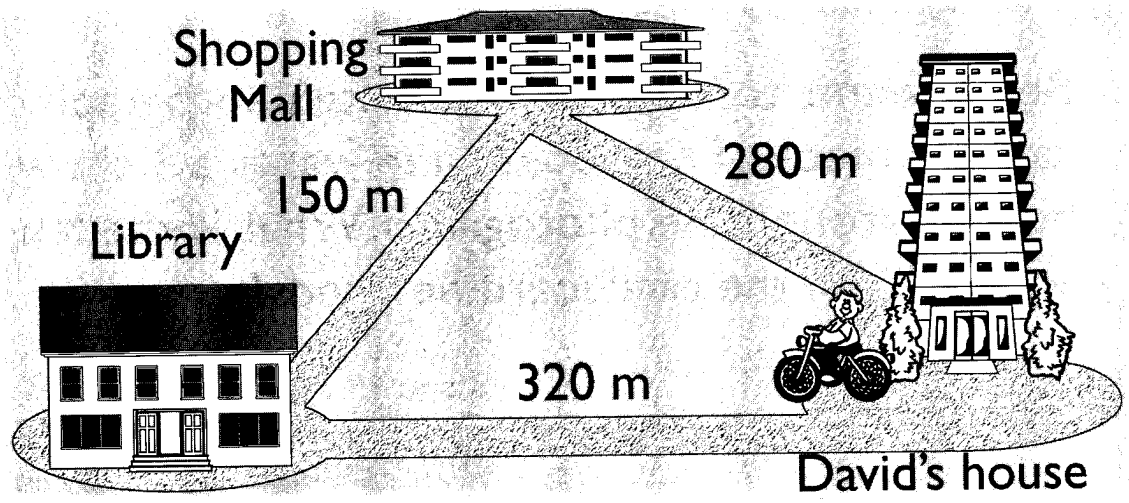


Joyce is going to the bus-stop.

Which is the shortest route to the bus-stop?_____

Which is the longest route?_____

3. Study the diagram and answer the questions.

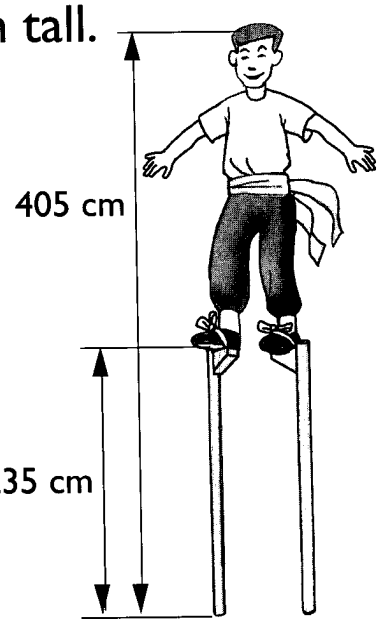


(a) David cycled from his house to the shopping mall for lunch and then to the library. How far did he cycle in all? _____

(b) Which is nearer to David's house — the library or the shopping mall? _____

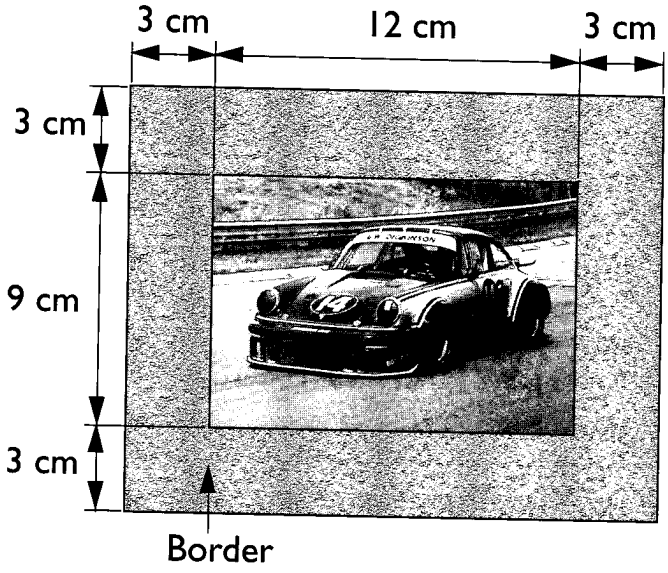
How much nearer is it? _____

4. Mr. Lee owns a pair of stilts 235 cm tall. When he stands on them, his total height from the ground is 405 cm. How tall is Mr. Lee? _____

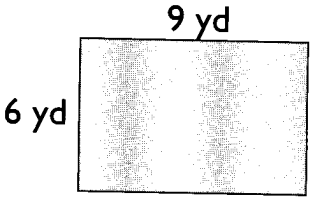


Exercise three

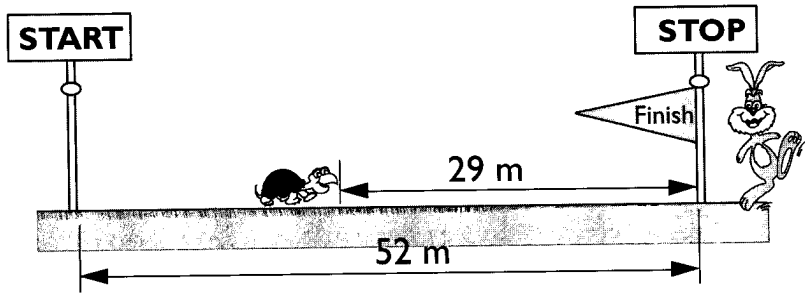
1. Benny wants to paste his favourite photograph of a car on a piece of cardboard. He wants a 3 cm wide border around the photograph. What is the length and width of the cardboard he needs?



2. A piece of land is rectangular in shape. Its length is 9 yd and its width is 6 yd. Maria, the owner, decided to put a fence around the edges of the piece of land. How many metres of fencing does Maria need?



3. A turtle has 29 m more to run to reach the finishing line. The rabbit who already won the race, ran a total distance of 52 m. How many metres is the turtle away from the start line?



4. Tammy lives 345 yd away from her school. What distance does she travel to school and back?

Activity

Books are protected by wrapping their covers with either paper or plastic wrappers. Make a paper wrapper for your Mathematics exercise book.

1. Take the measurements of your Mathematics exercise book. Which unit of measurement would you use to measure the book? _____

2. Measure the amount of paper you need to wrap the book cover. Leave a border of 2 to 4 cm wide for attaching the wrapper to the book cover. What are the measurements of the wrapper?

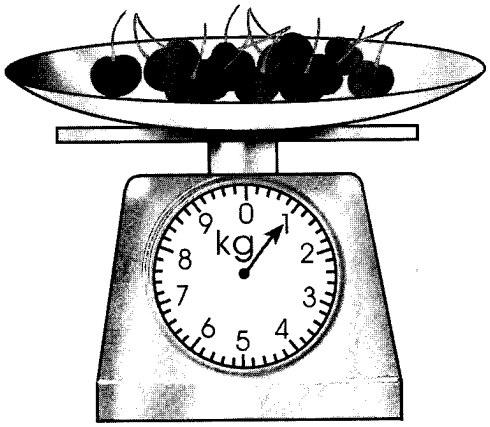
3. Cut out the paper wrapper and wrap the book cover. Design your book cover.

Mass

Exercise one

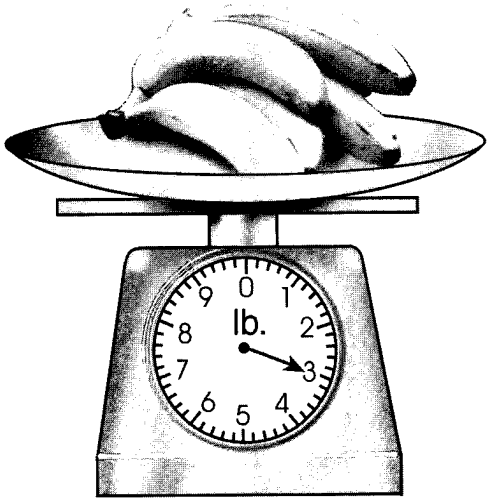
1. Study the pictures and fill in the blanks.

(a)



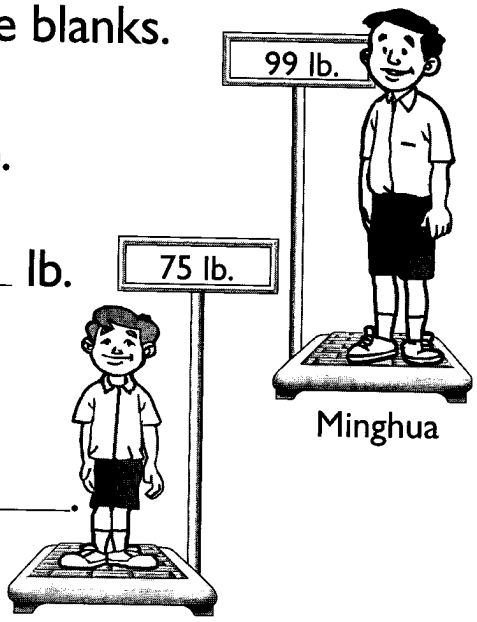
The mass of the bunch of cherries is _____ kg.

(b)



The mass of the comb of bananas is _____ lb.

2. Look at the pictures and fill in the blanks.



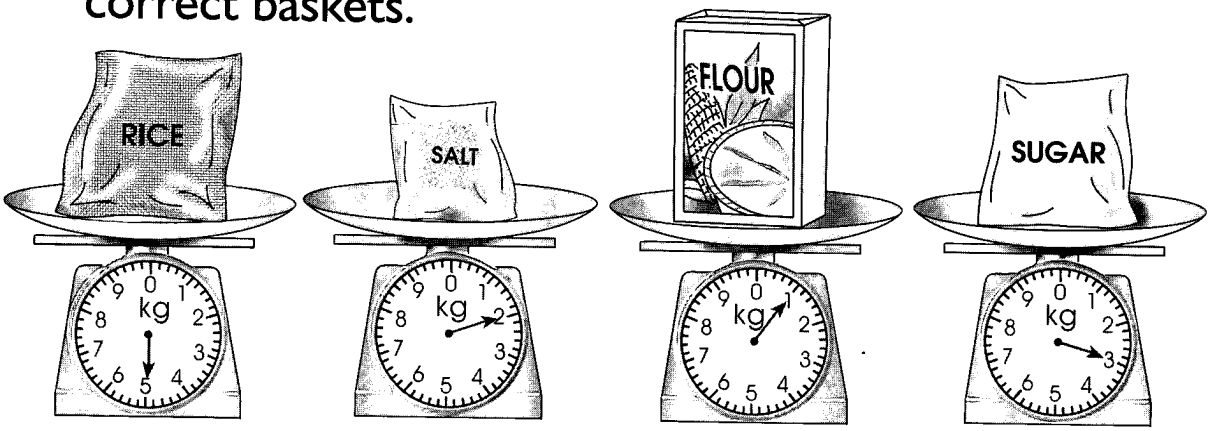
(a) The mass of Kevin is _____ lb.

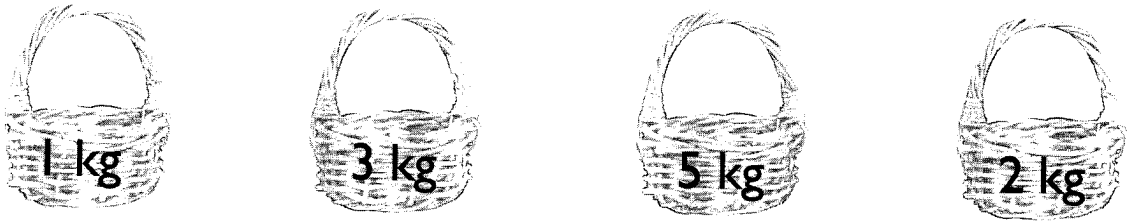
(b) The mass of Minghua is _____ lb.

(c) The mass of _____

is _____ lb. more than _____.

3. Match the items on the weighing machine with the correct baskets.



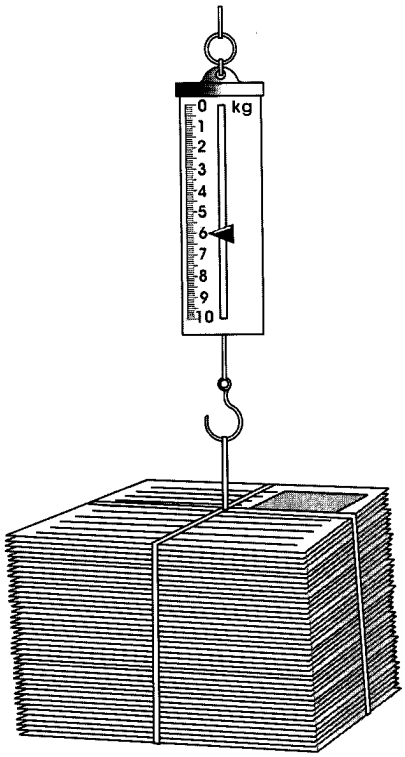


4. Write the correct answers in the blanks.

(a)

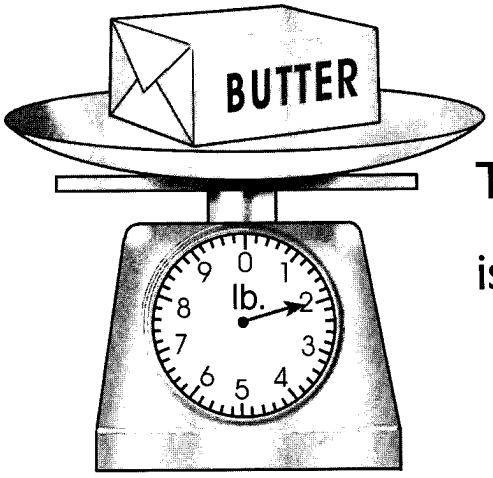
The mass of the baby is about _____ kg.

(b)



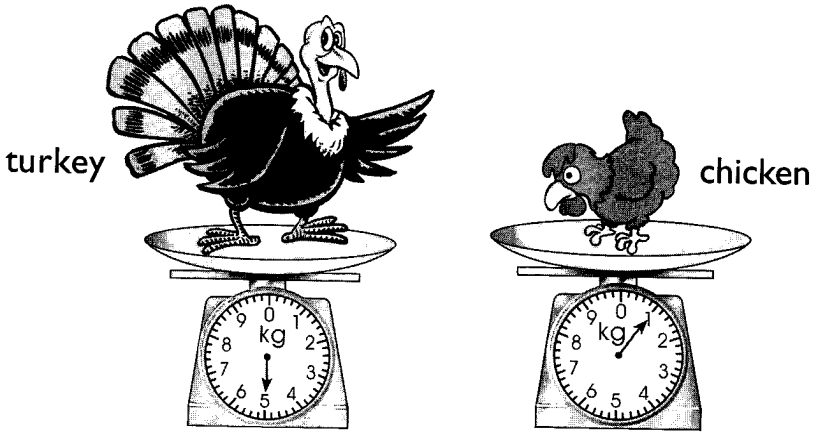
The mass of the bundle of newspapers is _____ kg.

(c)



The mass of the butter is _____ lb.

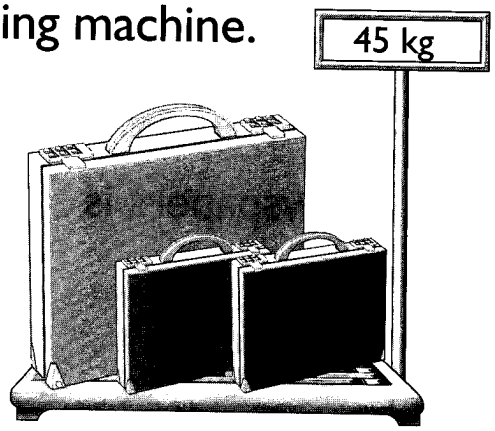
5. Study the picture and complete the sentence.



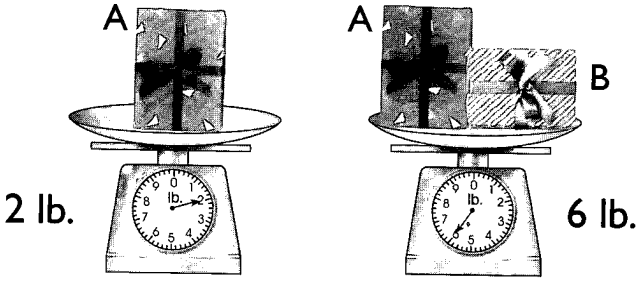
The turkey is _____ kg heavier than the chicken.

6. Two small suitcases of the same mass and one large suitcase are put on the weighing machine.

The mass of the large suitcase is _____ kg.



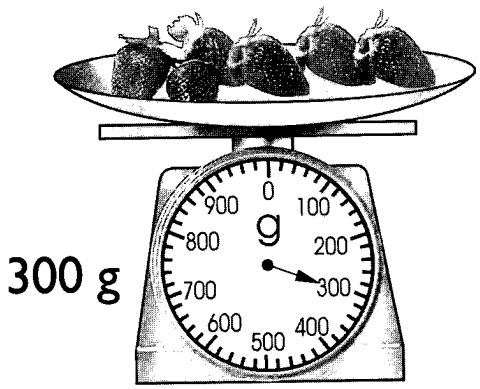
7. Look at the pictures carefully. Then fill in the blank.

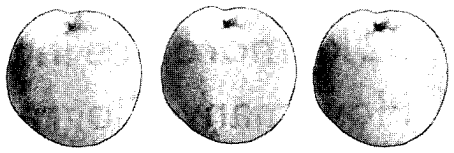


The mass of parcel B is _____ lb.

Exercise two

1. If three oranges have the same mass as the strawberries, what is the mass of one orange?

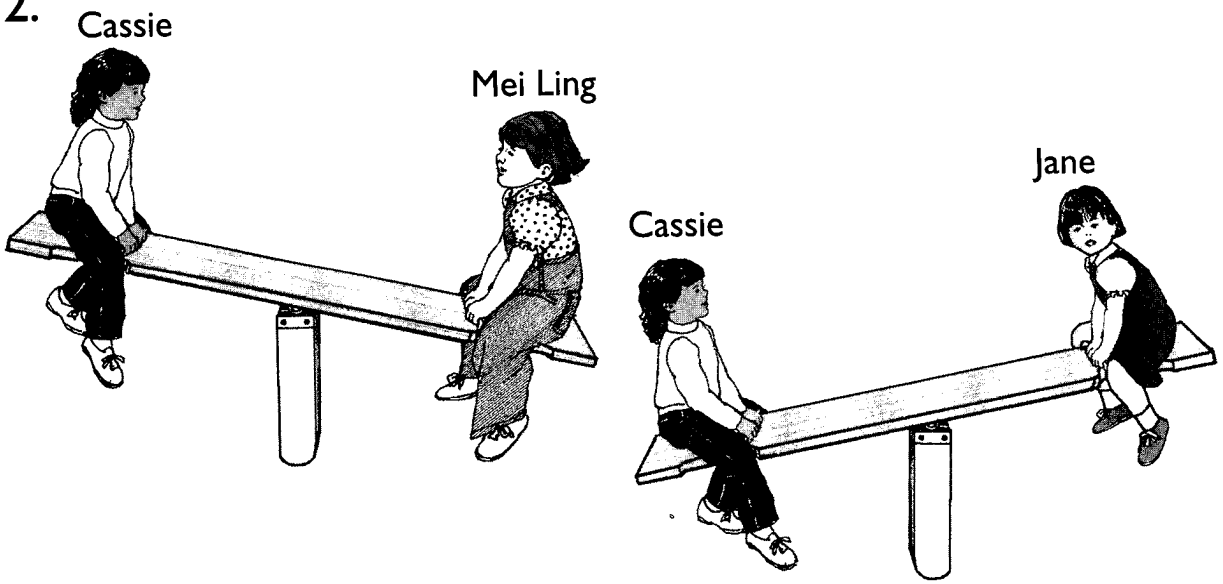




The mass of the 3 oranges is _____ g.

The mass of 1 orange is _____ g.

2.



If Mei Ling's mass is 40 kg and Jane's is 20 kg, Cassie's is most likely to be between _____ kg and _____ kg.

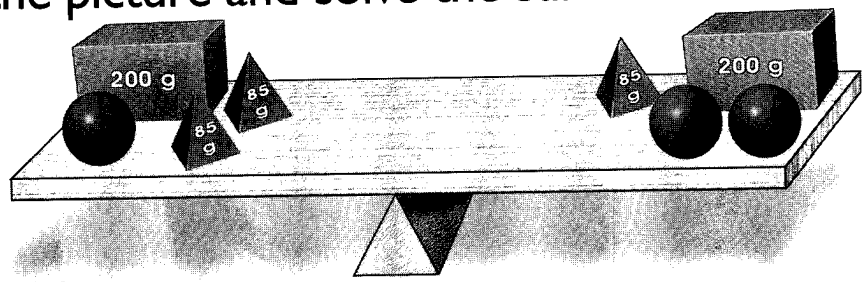
3. The mass of a teaspoon is 75 g. It is 175 g lighter than a teacup. Find the total mass when the teaspoon is in the teacup.

4. Mr. Orlando sold 85 kg of rice in the morning. He sold 32 kg more rice in the afternoon than in the morning. How many kilograms of rice did he sell in all?

5. Terry's mass is 80 lb. His brother is 8 lb. lighter. What is their total mass?

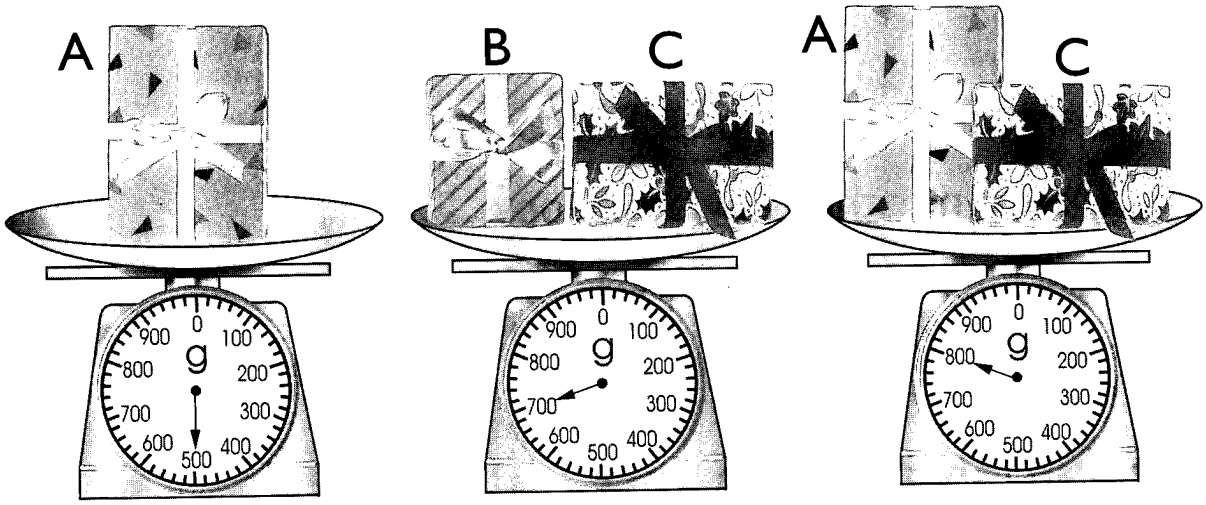
Exercise three

1. Study the picture and solve the sum.



 + + = _____ g

2. Look at the picture carefully and fill in the blanks.



The mass of parcel A is _____ .

The mass of parcel A and parcel C is _____ .

The mass of parcel C is _____ .

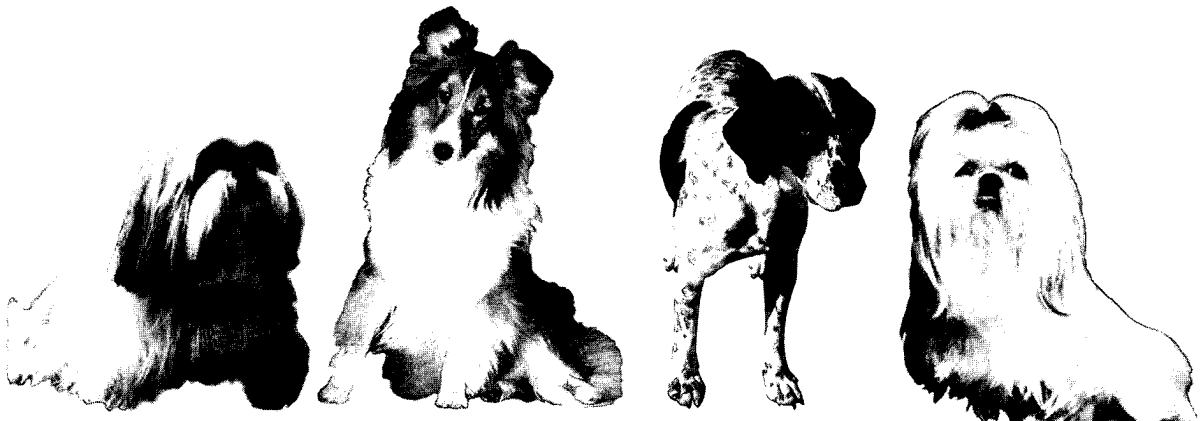
The mass of parcel B and parcel C is _____ .

The mass of parcel B is _____ .

The heaviest parcel is parcel _____ .

The total mass of parcel A and B is _____ .

3. Read carefully and solve.

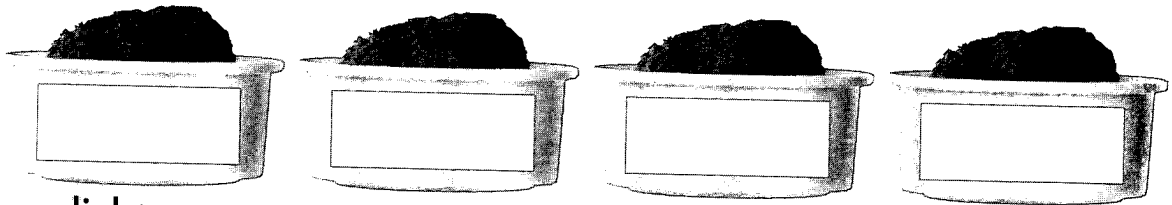


Boxy Collie Dan Raz

There are four puppies: Raz, Boxy, Collie and Dan

- Dan is not the heaviest puppy.
- Raz is not the lightest puppy.
- Raz is lighter than Collie.
- Dan is heavier than Boxy.
- Dan is heavier than Raz.

Write the puppies' names on these dishes from the lightest to the heaviest.



lightest heaviest

Activity

Visit the supermarket, or the fruiterer at the market with your parents.

1. What is the biggest fruit you see? _____
   Guess its mass. _____

2. Choose three tomatoes and weigh them separately.
   How heavy is the heaviest tomato? _____
   How heavy is the lightest tomato? _____

3. Compare a 1kg box of cereal and a 1kg bag of rice.
   Which is bigger in size? _____
   Which is heavier? _____

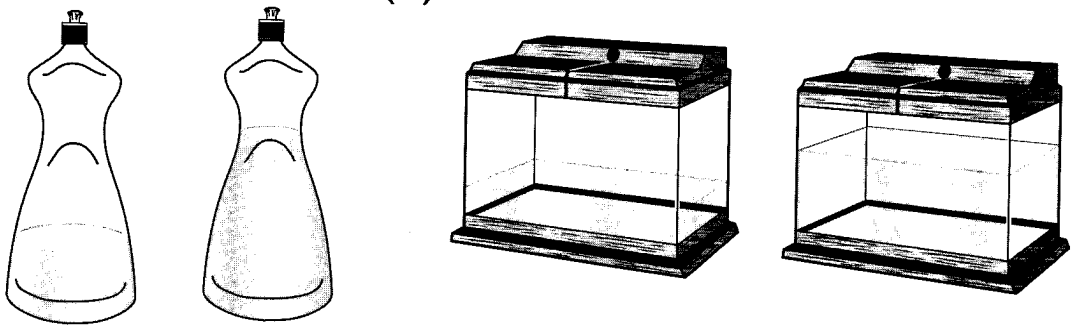
4. Find two different types of vegetables or fruits that are of about the same size but different mass.

Volume

Exercise one

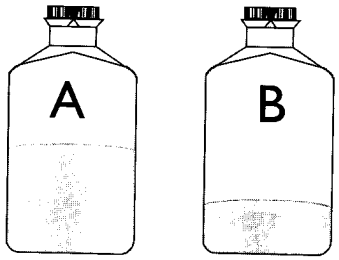
1. Tick the container that contains less water.

(a) (b)



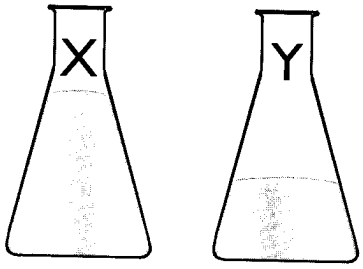
2. Write '**True**' or '**False**'.

(a)



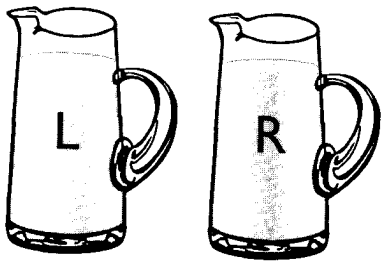
Container B has more water than Container A. _____

(b)



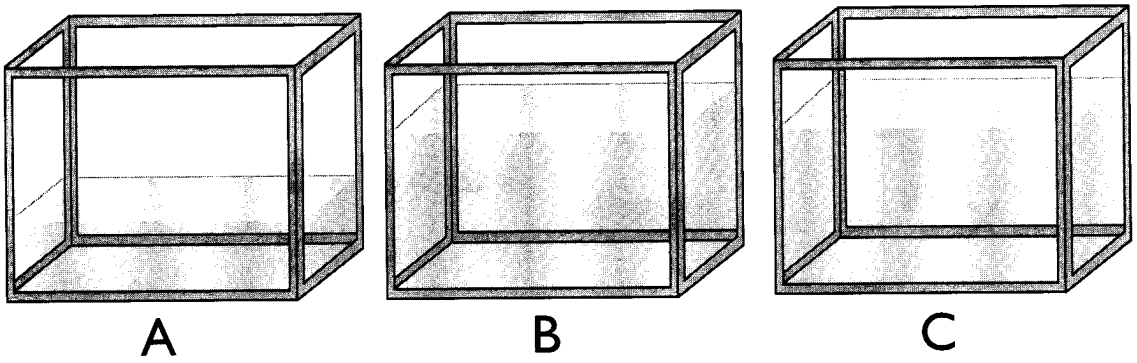
Flask X has more water than Flask Y. _____

(c)



Jug R has more juice than Jug L. _____

3. Fill in the blanks.

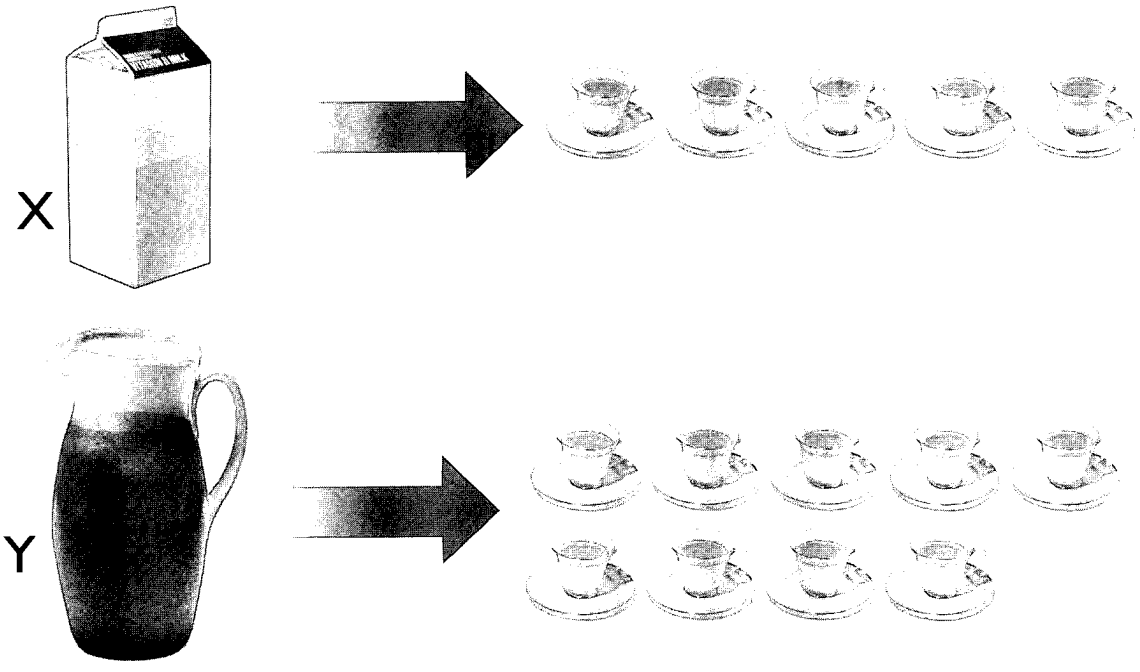


The volume of water in Tank ____ is less than Tank C.

Tank ____ and ____ have the same amount of water.

Tank ____ has the least amount of water.

4.

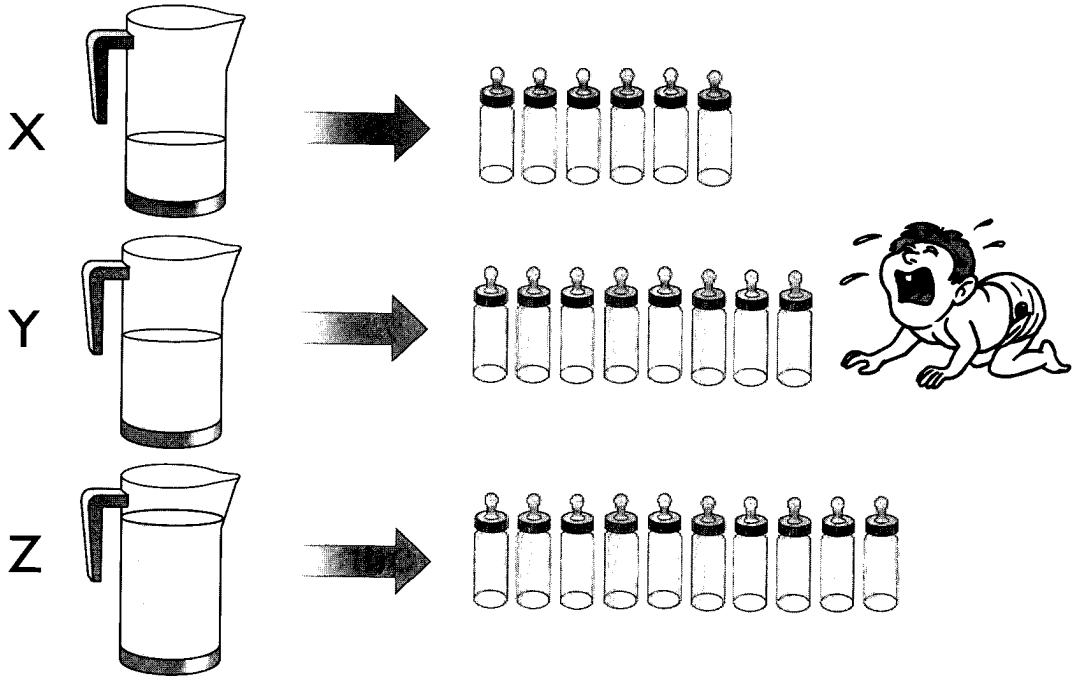


Container ____ has more liquid than Container ____.

The volume of liquid in Container X is ____ cupfuls.

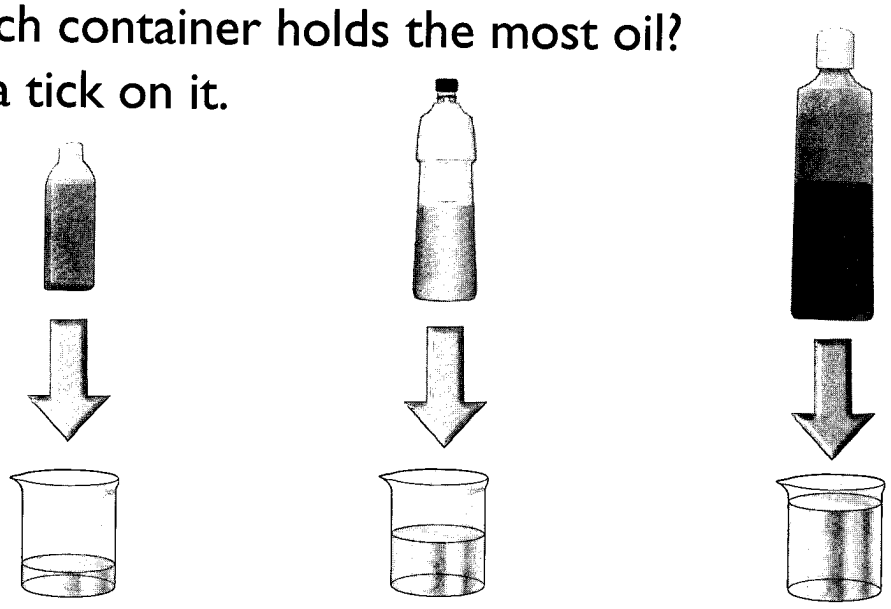
Exercise two

1. Look at the picture and complete the sentences.



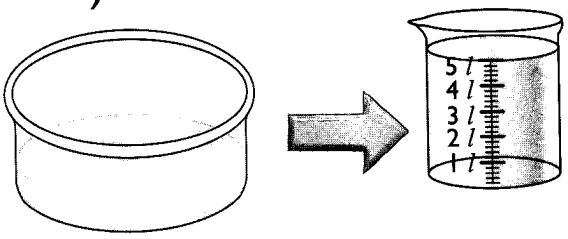
Jug ___ has the greatest volume of milk.
Jug ___ has less milk than Jug Y.

2. Which container holds the most oil?
Put a tick on it.



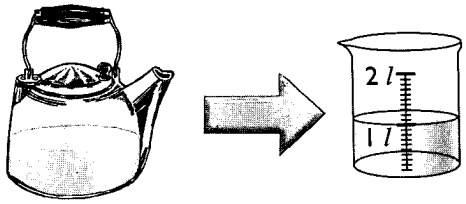
3. Write the volume of the liquids in the following containers using *l*.

a)



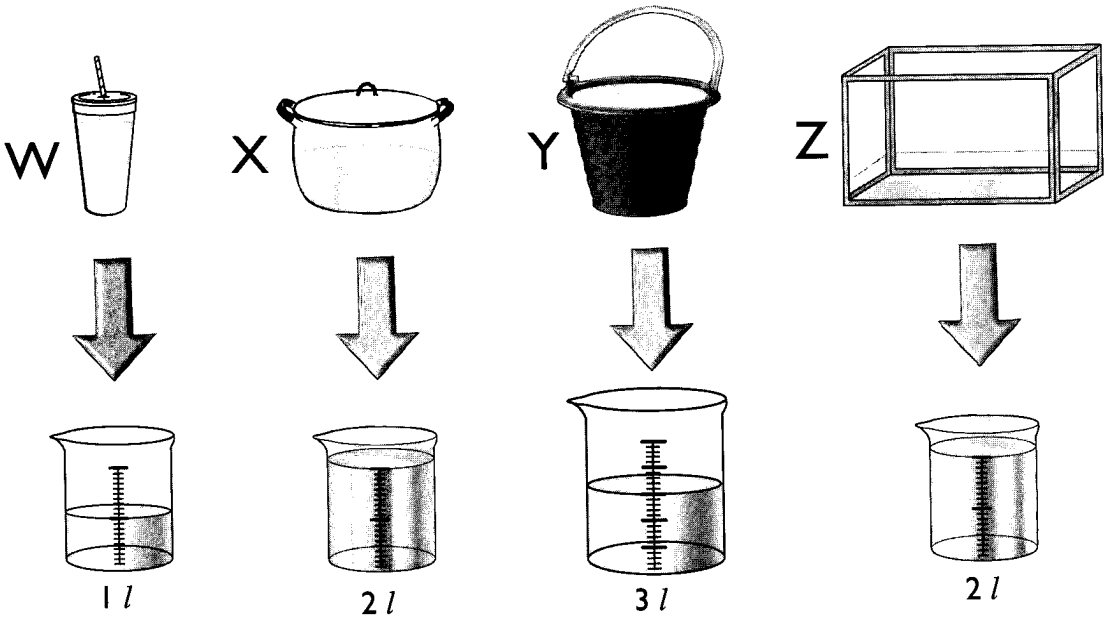
_____

b)



_____

4. Look at the picture carefully and write 'True' or 'False'.



a) The volume of water in Container Y is the same as Container Z. _____

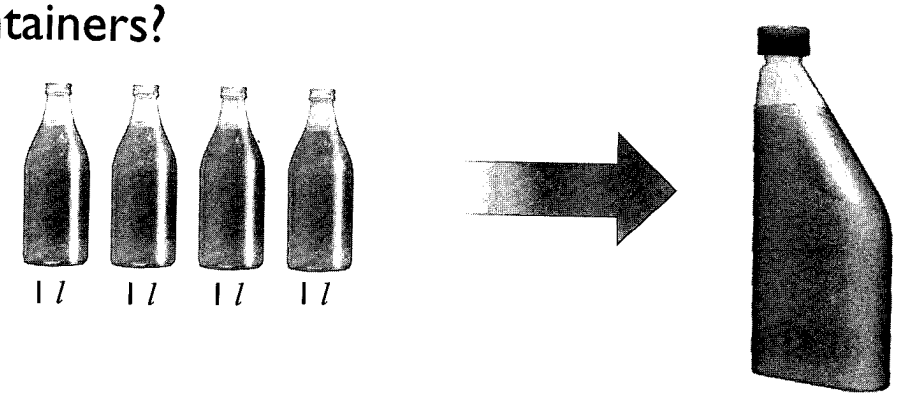
b) The volume of water in Container X is less than Container W. _____

c) The volume of water in Container W is less than Container Y. _____

Exercise three

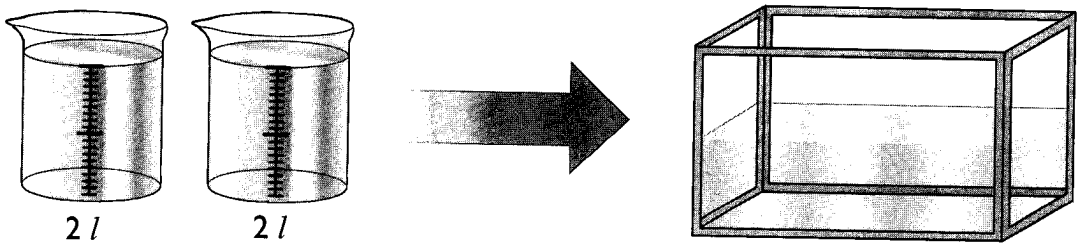
1. What is the total volume of liquid in each of the containers?

(a)



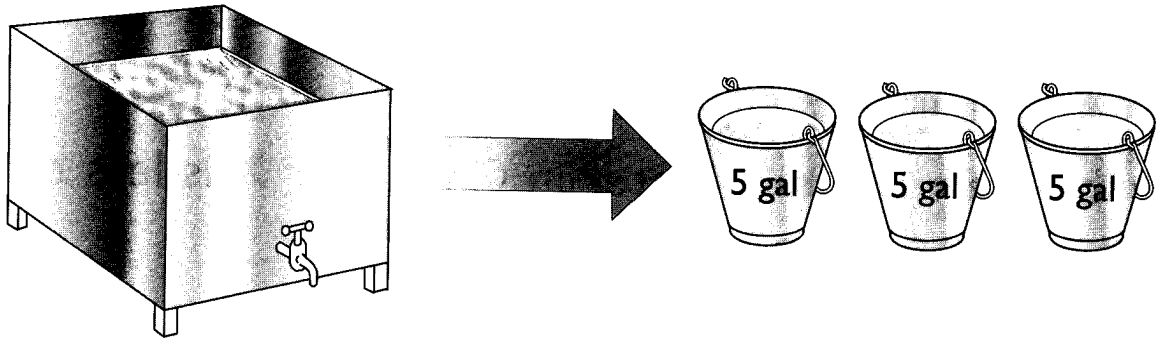
_____

(b)



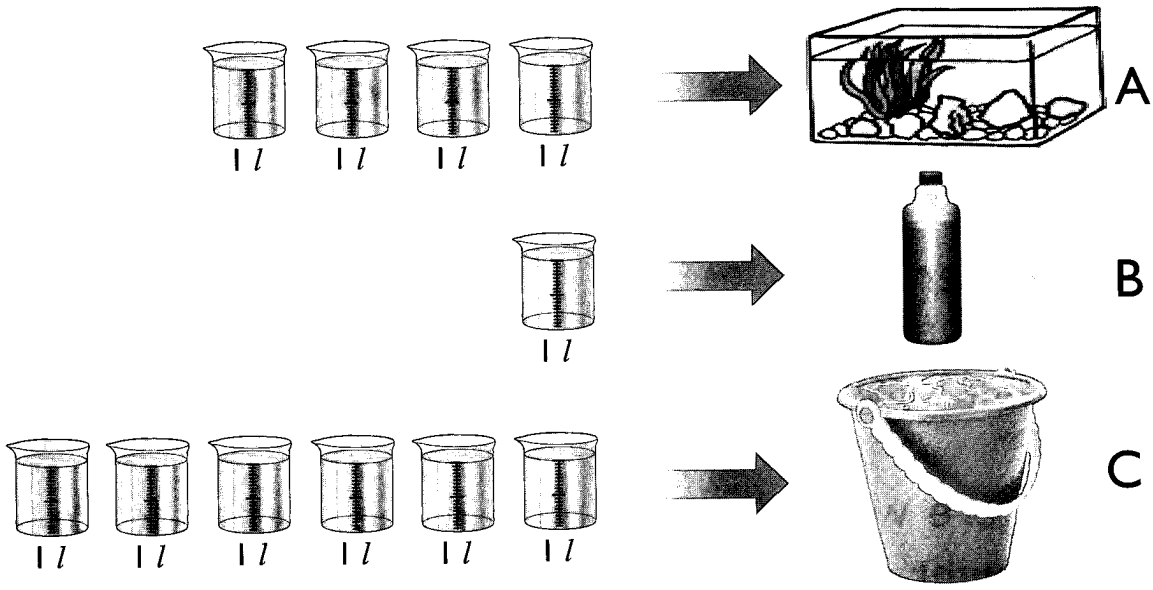
_____

2. Write the total volume of water in the tank.



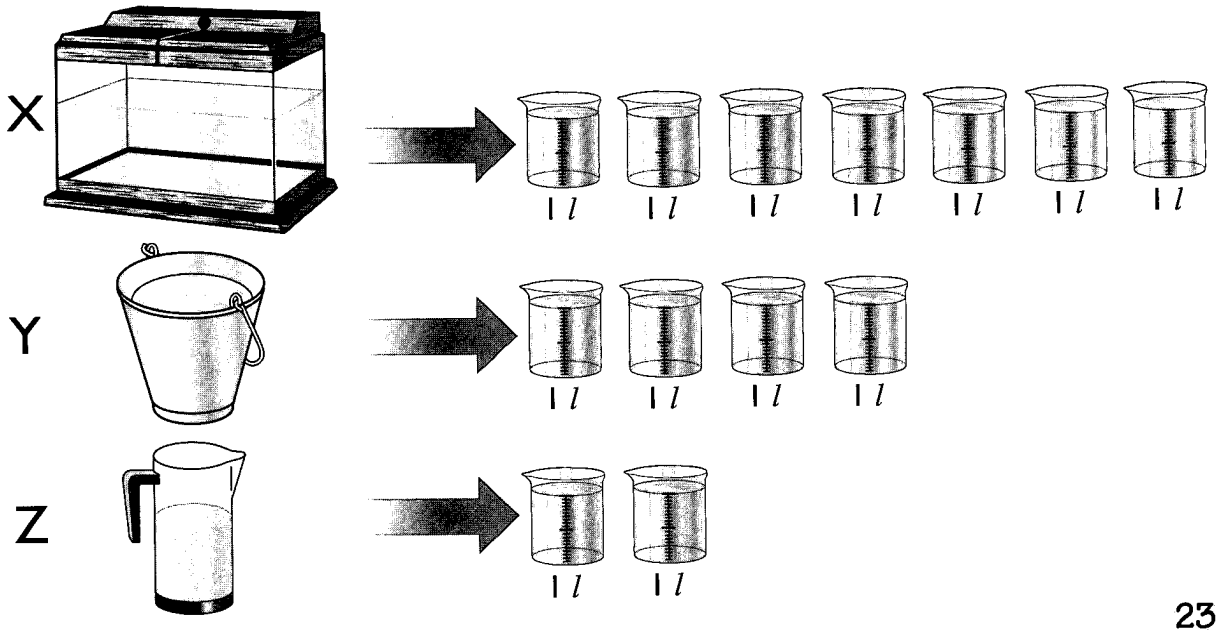
_____

3. Look at the pictures and fill in the blanks.



Container ____ has the biggest volume of water.
Container C has ____ liters more water than Container A.
Container A has ____ liters more water than Container B.

4. Look at the picture carefully and fill in the blanks.



Container X has _____ more water than Container Y.
Container Z has _____ less water than Container Y.
Container X has _____ more water than Container Z.

5. Solve the following word problems.

(a) There was 1 liter of juice in the bottle. Joyce bought another bottle of juice that contained 2 liters. What is the total volume of the juice?

(b) There are 10 gallons of water in a tank. 3 gallons of the water was used up by Maria to wash clothes. What was the volume of water that remained?

(c) A gardener used 6 liters of water to water the plants on Tuesday. He used only 4 liters on Wednesday. How much more water did he use on Tuesday?

(d) The children drank 7 liters of orange juice and 2 liters of black-current juice at Siti's birthday party. What was the total amount of juice that the children drank?

Activity

Get into your groups and think about the problem given below.

Then present your answers to the class.

If you are given three containers with markings showing the following volumes:

A : 2 liters **B** : 3 liters **C** : 4 liters

explain how you will measure out 1 liter of water.

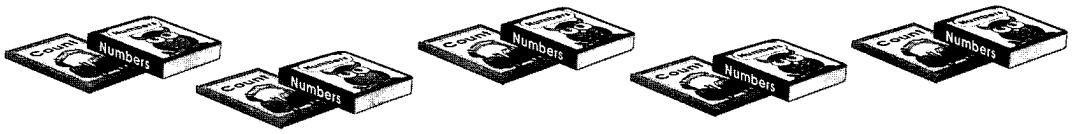
How many ways can you measure out 8 liters of water?

Explain two of the ways.

Multiplication And Division I

Exercise one

1. Fill in the blanks.

(a) 

□ + □ + □ + □ + □ = □

is the same as 5 groups of 2.

(b) 

□ + □ + □ + □ = □

is the same as 4 groups of 3.

2. Rewrite these additions as multiplications.

3 + 3 + 3 + 3 + 3 ⇨ 5 groups of 3 ⇨ ____ × ____

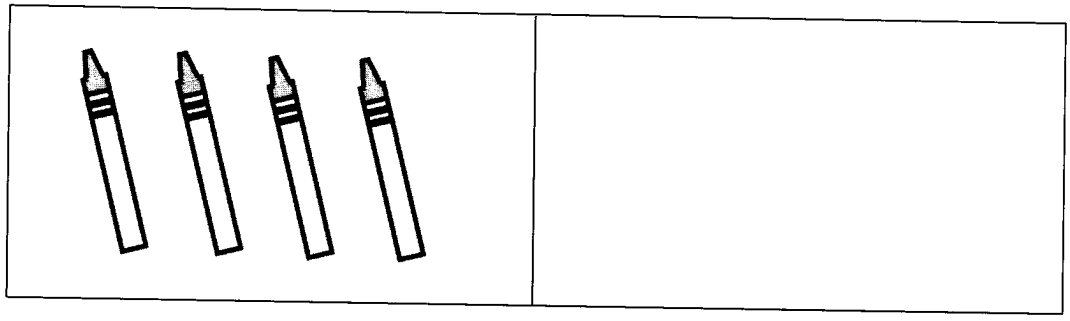
2 + 2 + 2 + 2 + 2 + 2 ⇨ 6 groups of 2 ⇨ ____ × ____

1 + 1 + 1 + 1 + 1 ⇨ 5 groups of 1 ⇨ ____ × ____

2 + 2 + 2 ⇨ 3 groups of 2 ⇨ ____ × ____

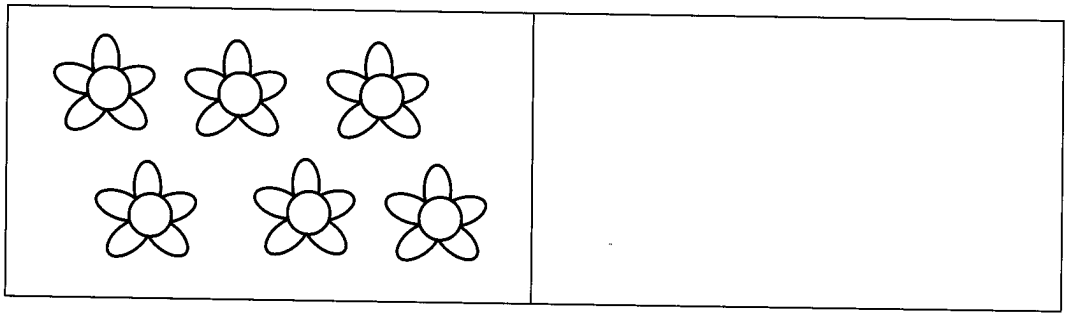
3. Draw the same number of objects in the empty box.

(a)



There are 2 groups of _____ crayons each.

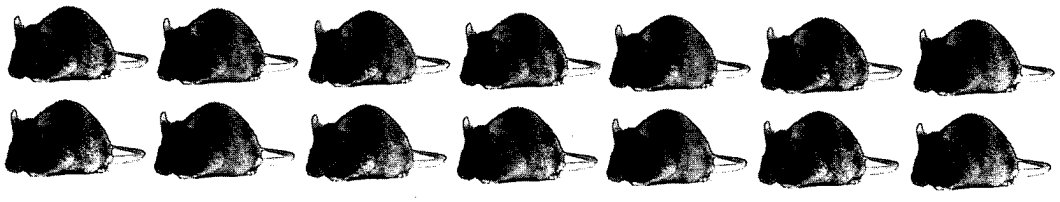
(b)



There are 2 groups of _____ flowers each.

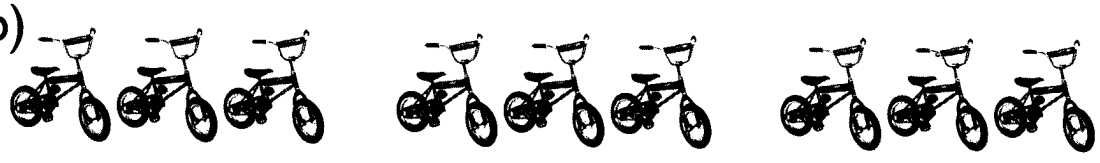
4. Write the multiplication sentences for the following.

(a)



_____ × _____ = _____

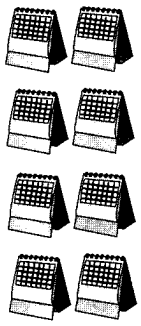
(b)



_____ × _____ = _____

(c)

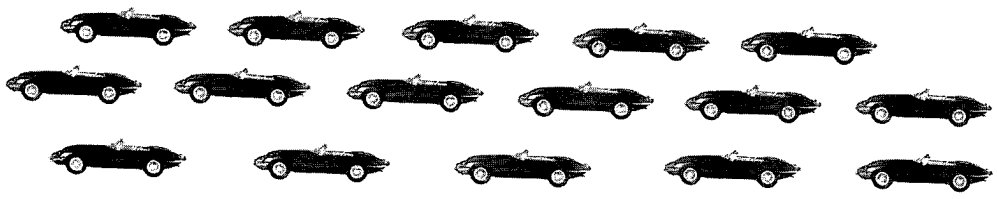
_____ × _____ = _____



5. Make a table of 2 by counting the number of wings that the birds have.
   Then write out the multiplication table of 2.

No. of Tweety Birds	2 times table	No. of wings
	1 × 2 = 2	2
		
		
		
		
		
		
		
		
		

6. Circle to show two groups with the same number of objects.

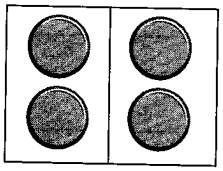
(a) 

There are 2 groups of _____ cars each.

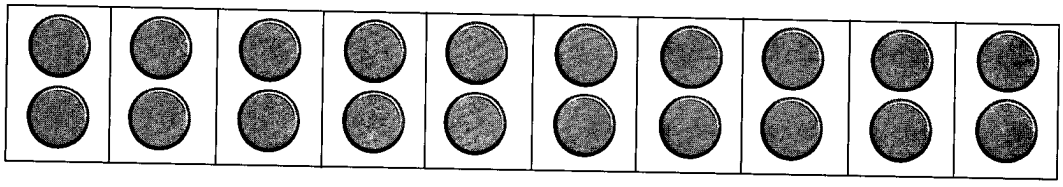
(b) 

There are 2 groups of _____ cups each.

7. Write the multiplication for the following to show the number of counters altogether.

(a) 

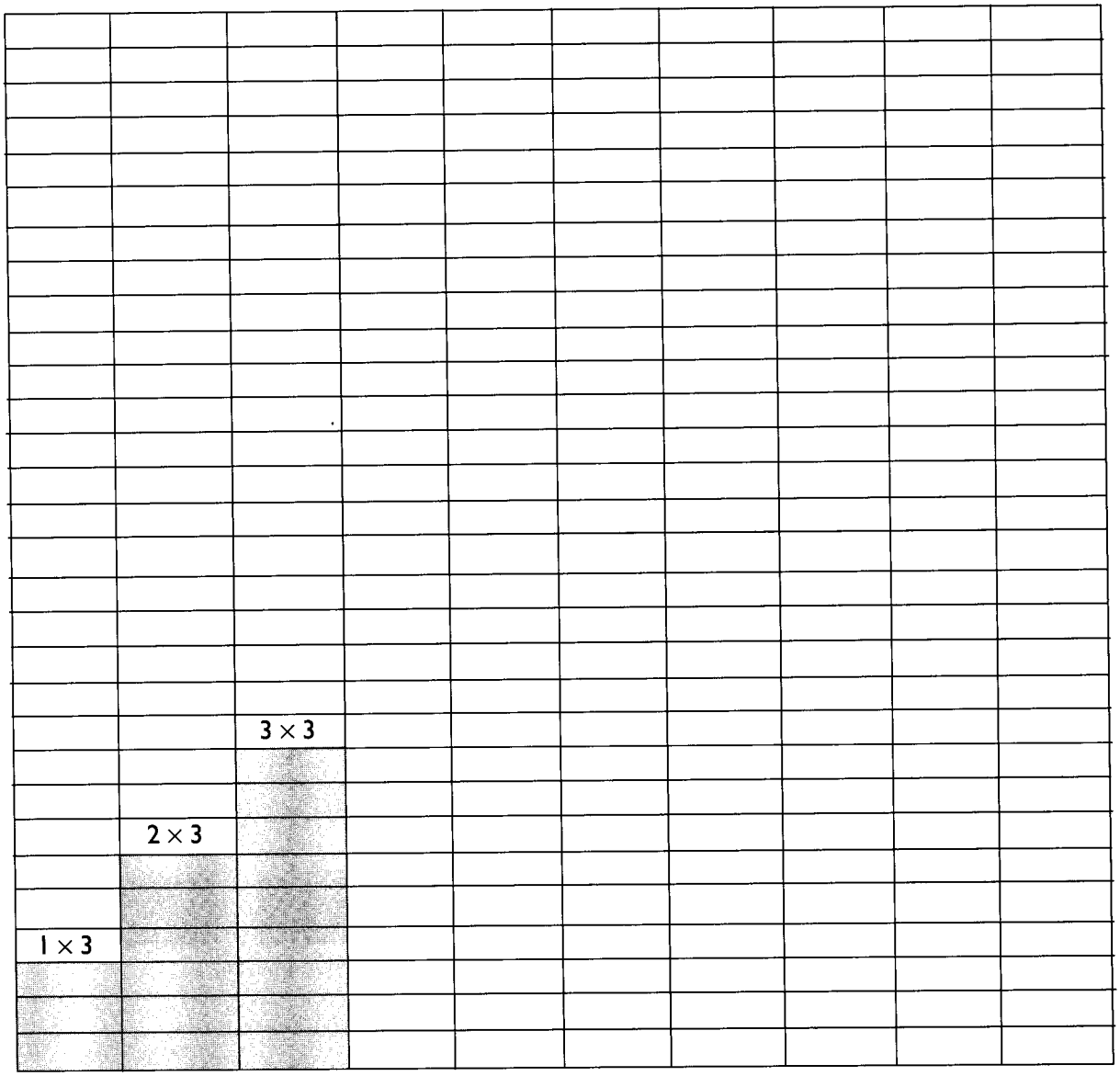
_____ × _____ = _____

(b) 

_____ × _____ = _____

Exercise two

1. Color to continue the step patterns of threes and write the multiplication sentence on top of the step (see example shown). Then fill in the blanks with the correct number.

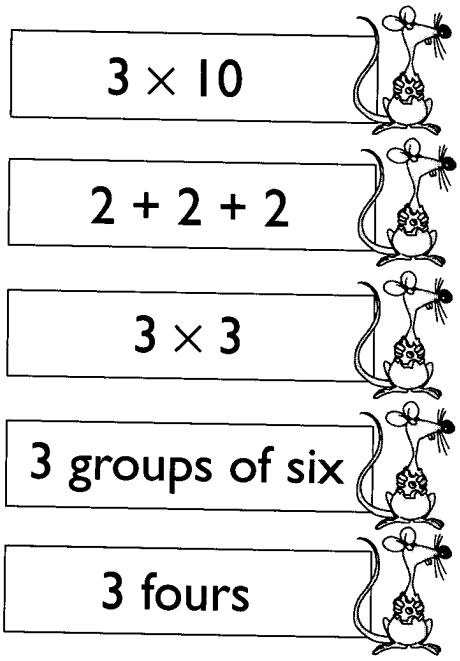


3 6 ____ ____ ____ ____ ____ ____ ____ ____

2. Recall the multiplication table of 3 to complete this table.

	5	7	8	2	9	4	6
3 ×	15						

3. Match the following:



3 × 10	9
2 + 2 + 2	6
3 × 3	12
3 groups of six	18
3 fours	30

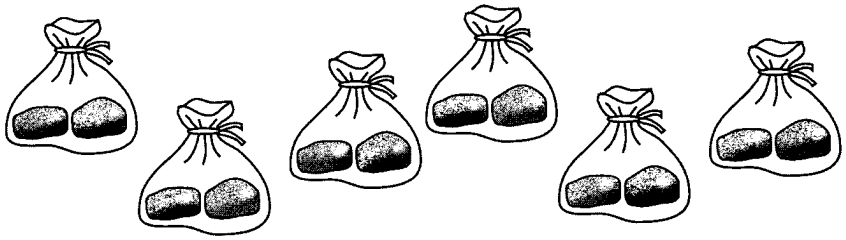
4. Join each multiplication to its answer.

4 × 3	7 × 2	9 × 2	5 × 3	7 × 3

21	18	12	14	15

5. Do the following questions:

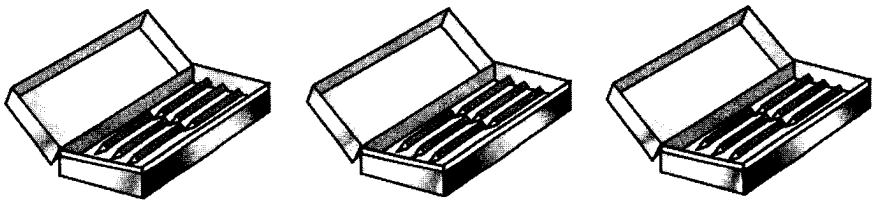
(a) There are 2 stones in each bag. How many stones are there altogether?



_____ × 2 = _____

There are _____ stones altogether.

(b) There are 6 pencils in each pencil case. How many pencils are there altogether?



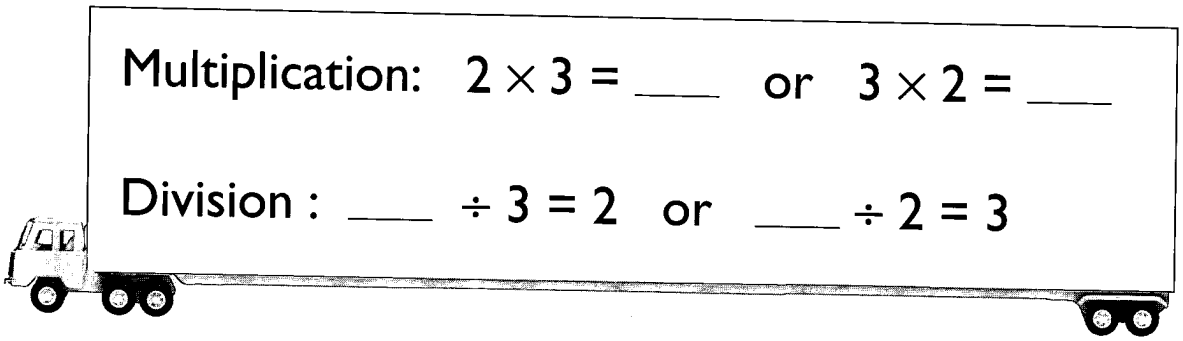
_____ × 6 = _____

There are _____ pencils altogether.

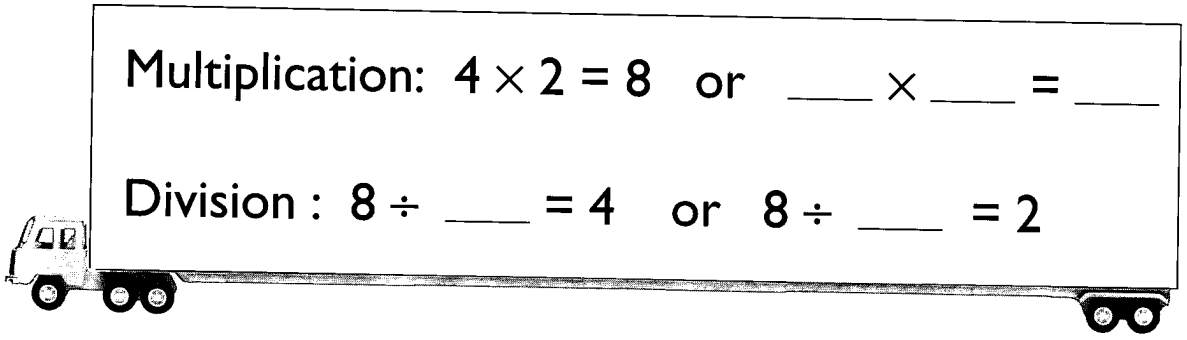
Exercise three

1. Complete the following multiplication and division families.

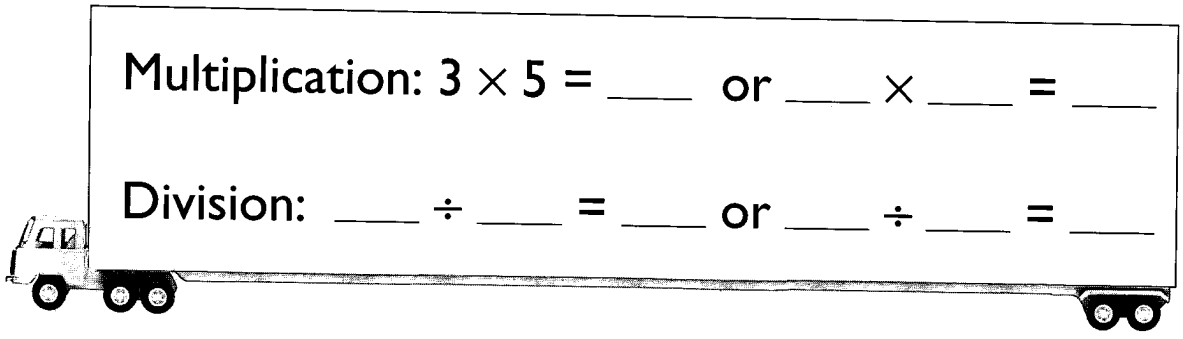
(a)



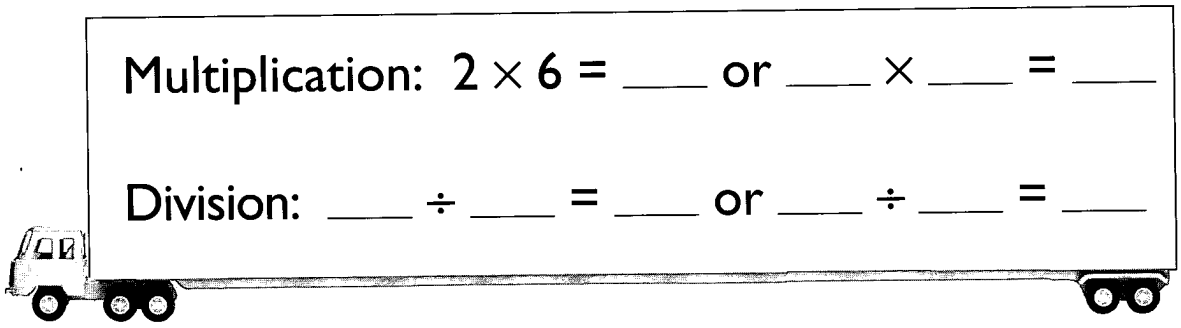
(b)



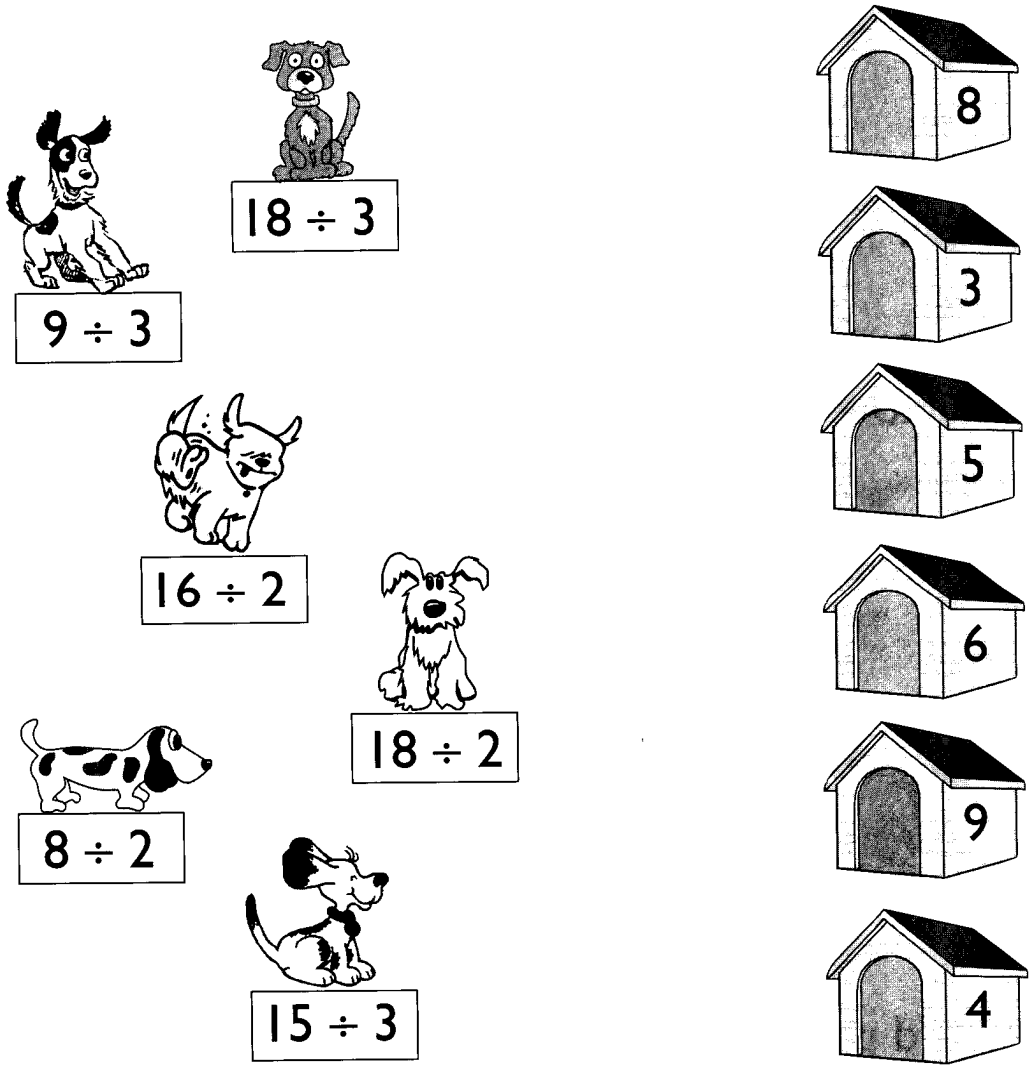
(c)



(d)



2. Join the puppies to their kennels by matching the division sentences to the answers.



3. Fill in the blanks.

1 × _____ = 3

2 × _____ = 8

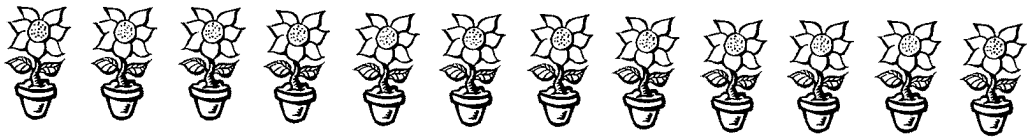
_____ × 2 = 10

2 × _____ = 18

3 × _____ = 15

_____ × 10 = 30

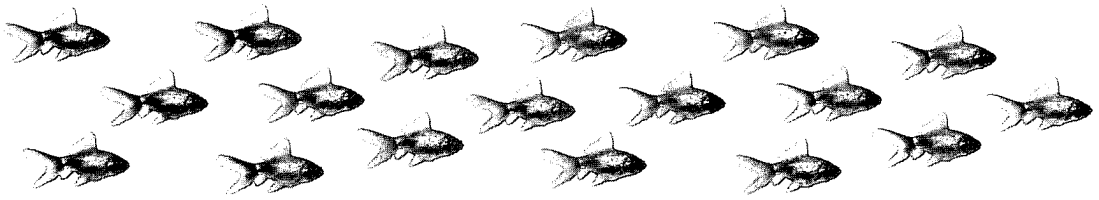
4. How many groups of 3 flowers are there? Color each group in a different color.

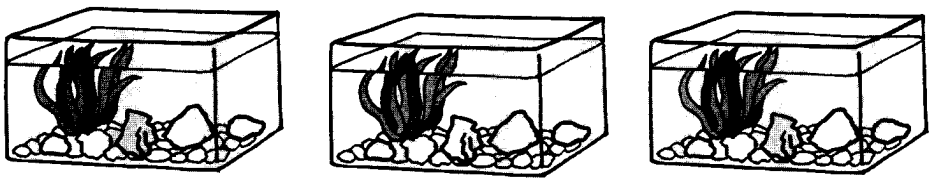


□ ÷ 3 = □

There are _____ groups of 3 flowers.

5. Ahmed bought 18 fish. He wants to put them equally into 3 tanks. How many fish should he put in each tank?

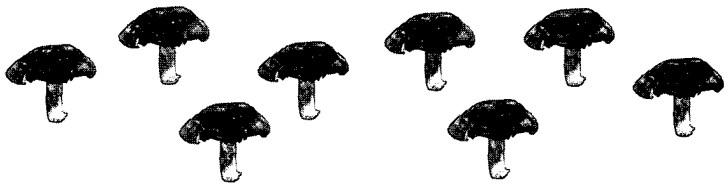




18 ÷ 3 = □

He should put _____ fish in each tank.

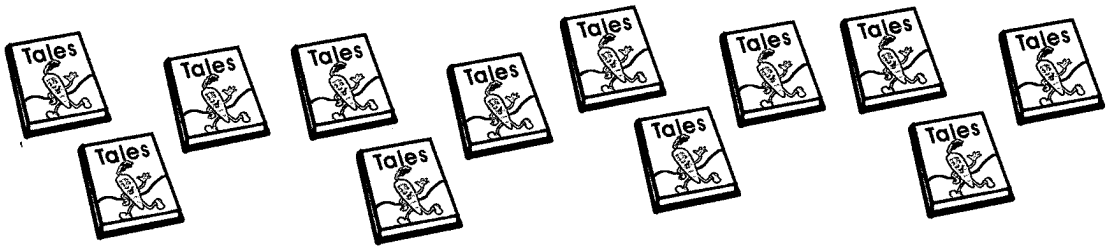
6. Circle the groups correctly and fill in the blanks.
   (a) Group the mushrooms into equal groups of 2.



$\square \div 2 = \square$

There are _____ groups of 2 mushrooms each.

(b) Divide the books equally into 2 groups. Use different colors for different groups.

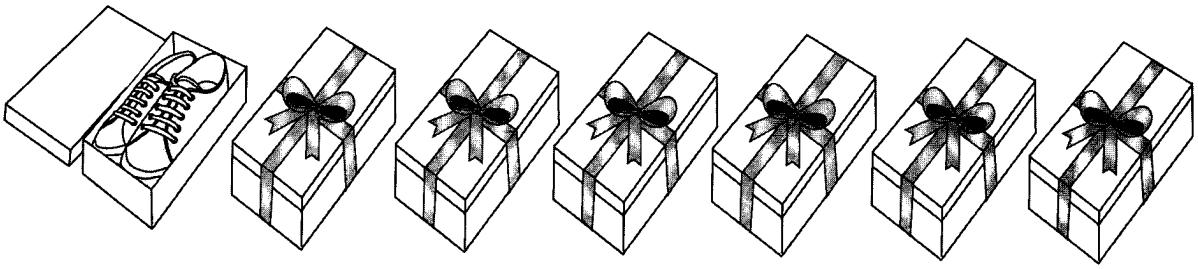


$\square \div 2 = \square$

There are _____ books in each group.

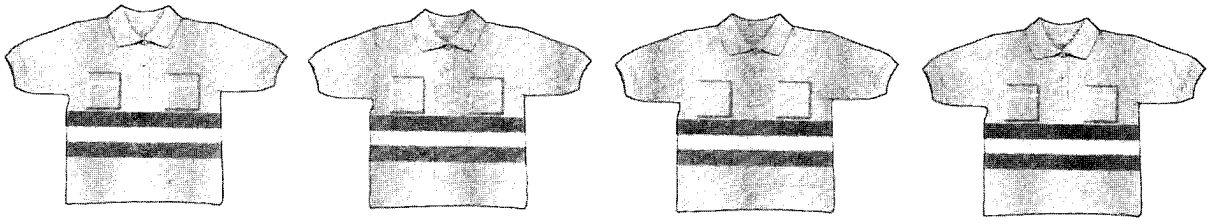
7. Look at the pictures carefully and write a multiplication or division for each picture.

(a) How many shoes are there?



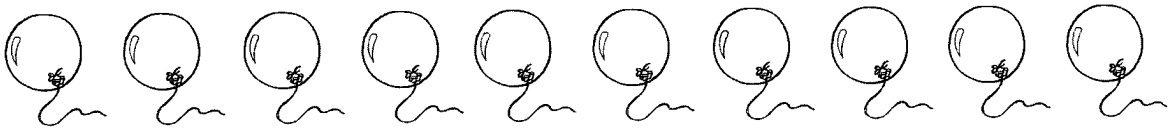
____ □ ____ = ____

(b) How many pockets are there?



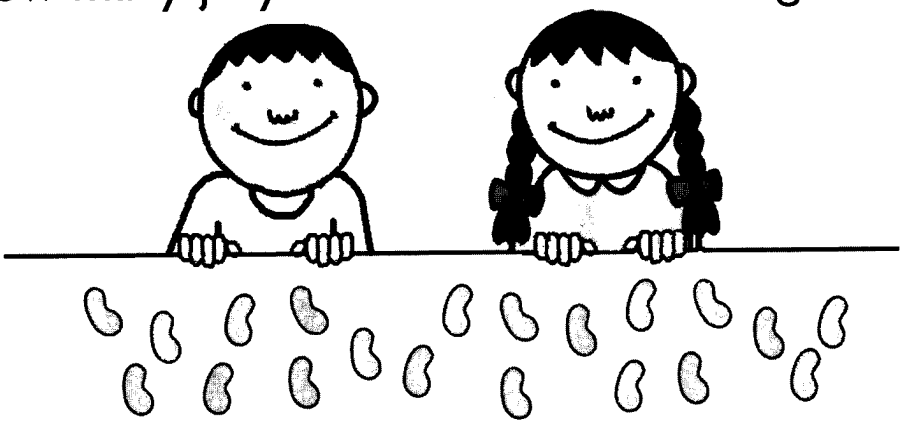
____ □ ____ = ____

(c) How many balloons does each child get?



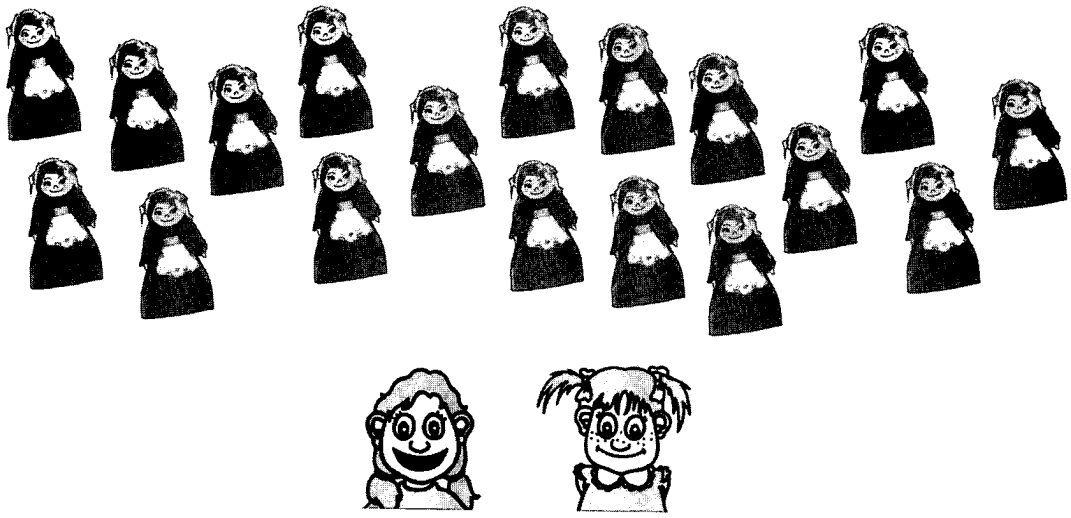
____ ☐ ____ = ____

(d) How many jelly beans does each child get?



____ ☐ ____ = ____

(e) How many dolls does each girl get?



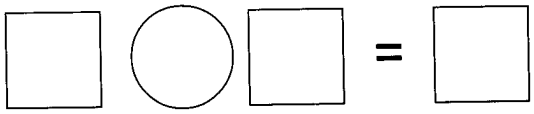
___ □ ___ = ___

8. Solve these problems and write the final statement.

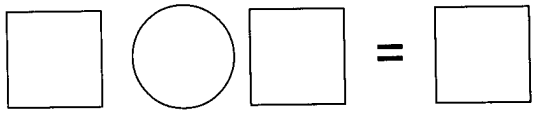
(a) Fandi and Matt had 16 picture cards. They shared the cards equally between themselves. How many cards did Matt receive?

□ ○ □ = □

(b) Ellen has 6 hair-clips. Mary has 2 times as many hair-clips as Ellen. How many hair-clips does Mary have?



(c) 3 boys shared 21 candies equally. How many candies did each boy get?

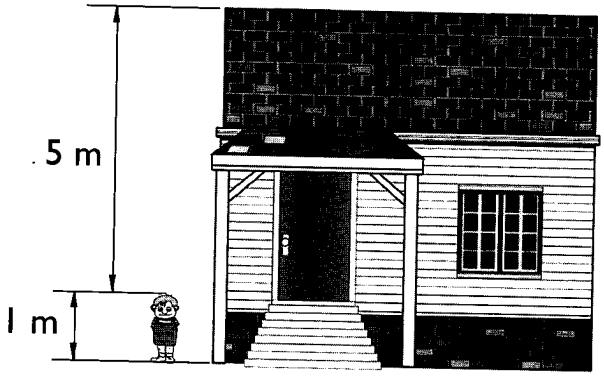


Let's Revise

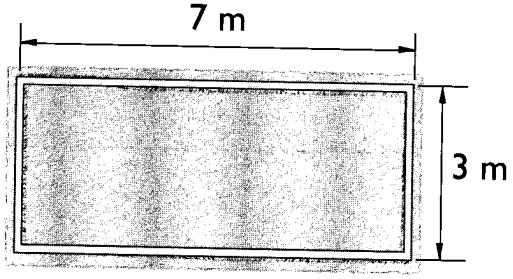
Exercise one

1. Fill in the blanks.

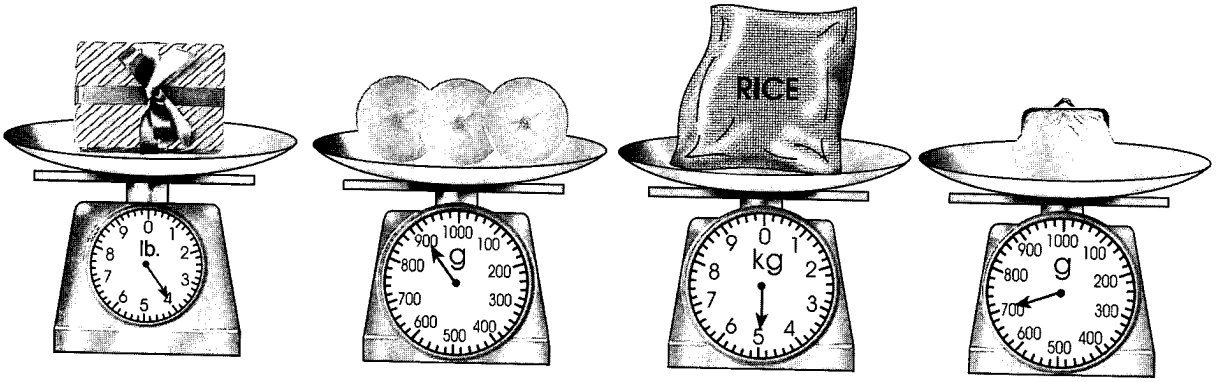
   (a) The height of the hut is _____ .



   (b) The total length of the path is _____ .



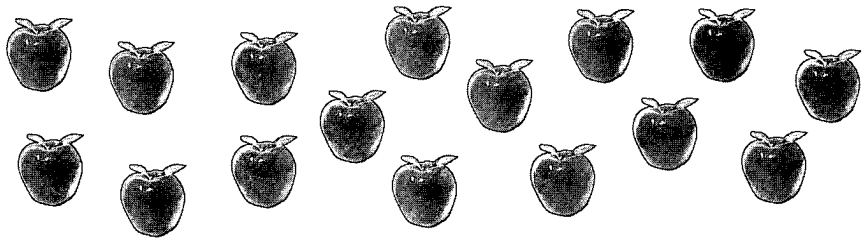
2. Match.



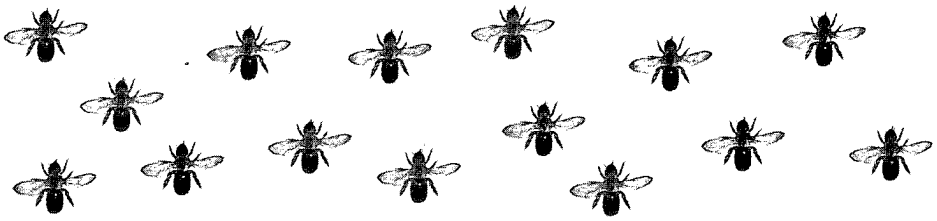
700 g　　5 kg　　4 lb.　　900 g

3. Circle to show the following number of groups. Each group must have equal number of objects.

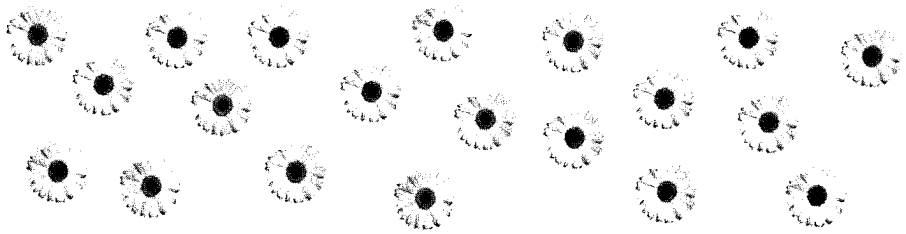
(a) 2 groups



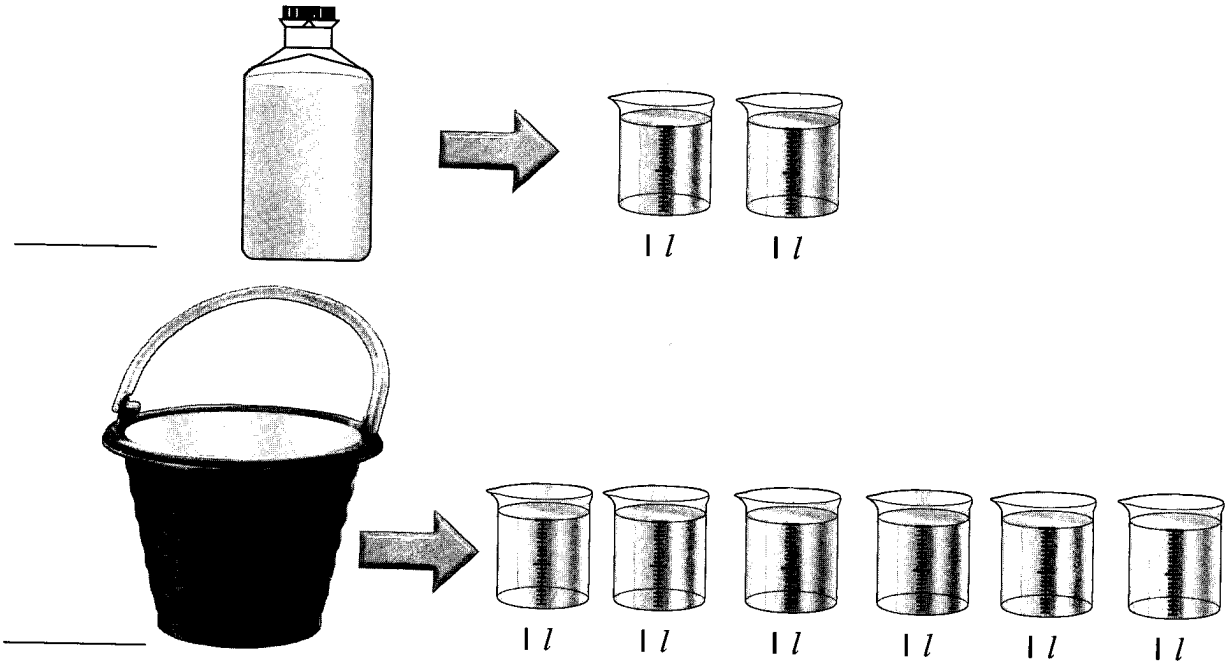
(b) 3 groups



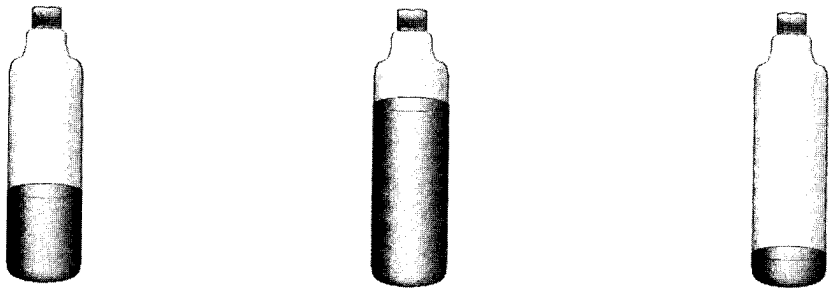
(c) 2 groups



4. Write the volume of the liquid in each of the containers using the unit '*l* '.



5. Look at the picture carefully and fill in the blanks.



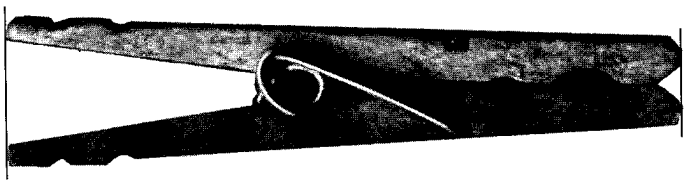
(a) The volume of water in Bottle _____ is more than Bottle X.

(b) Bottle _____ has the most amount of water.

(c) The volume of water in Bottle _____ is less than Bottle X.

5. Measure the lengths of the following objects.

(a)

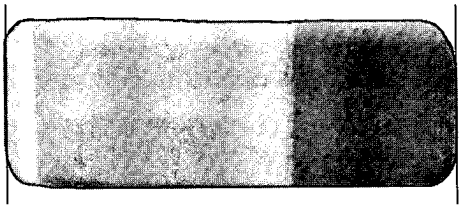


The length is _____ cm

(b)

The length is _____ in

(c)

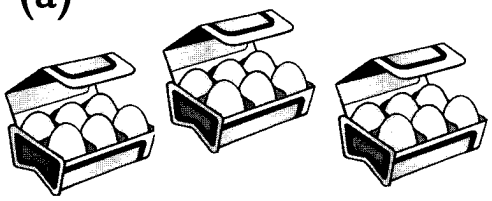


The length is _____ cm

Exercise Two

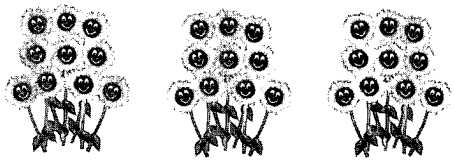
1. Look at the picture and write a multiplication or division sentence.

(a)



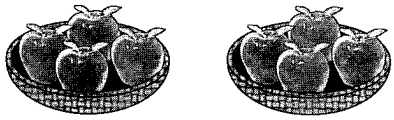
____ ◯ ____ = ____

(b)



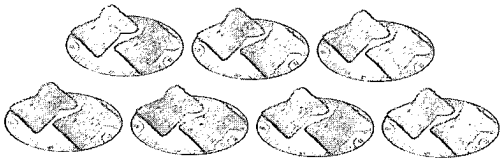
____ ◯ ____ = ____

(c)



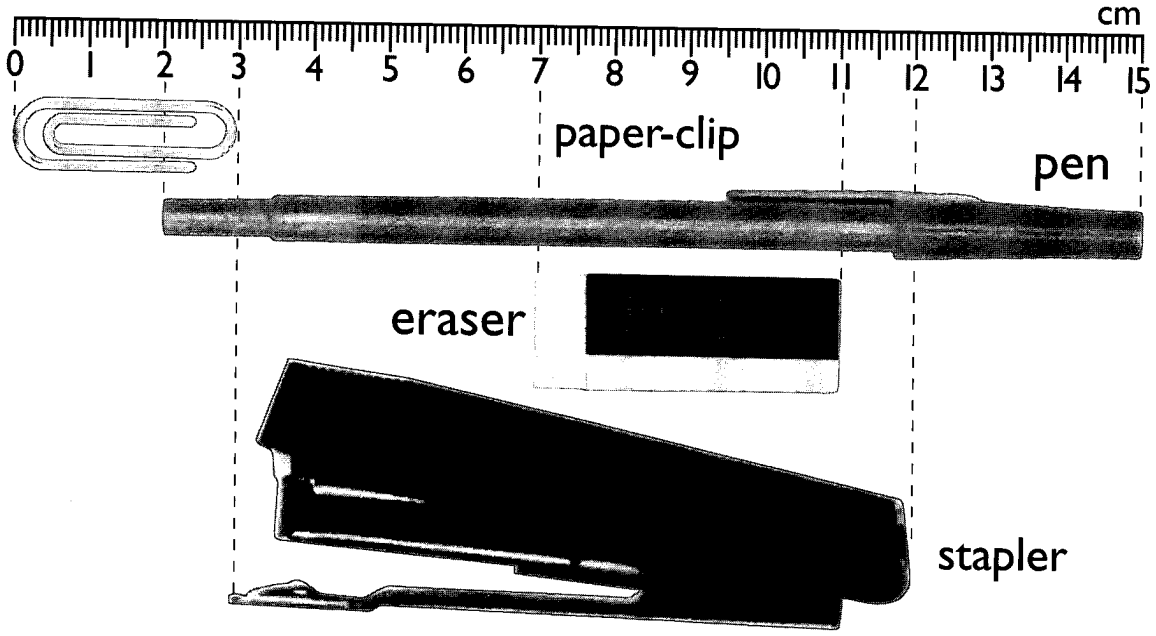
____ ◯ ____ = ____

(d)



____ ◯ ____ = ____

2. Fill in the blanks.



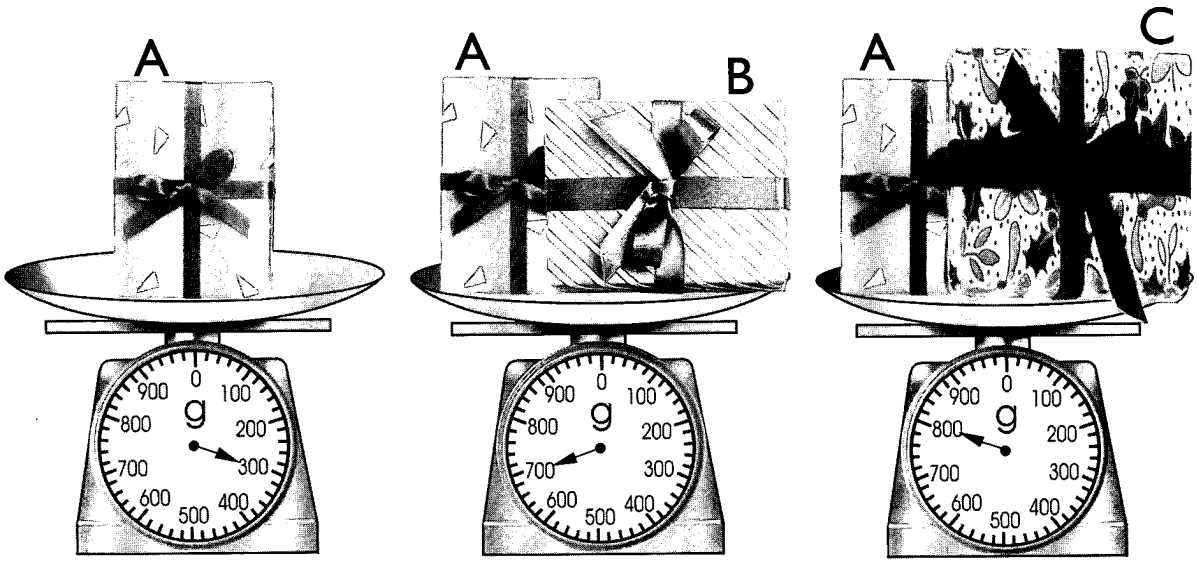
(a) The paper-clip is _____ long.

(b) The pen is _____ long.

(c) The stapler is _____ longer than the paper-clip.

(d) The eraser is _____ shorter than the pen.

3. Look at the picture and complete the sentences.



(a) The mass of parcel A is _____ .

(b) The mass of parcel B is _____ .

(c) Parcel _____ is heavier than parcel A.

(d) The total mass of parcel A and C is _____ .

4. Fill in the blanks.

A: 

B: 

C: 

D: 

(a) The volume of water in Container _____ is the same as Container _____.

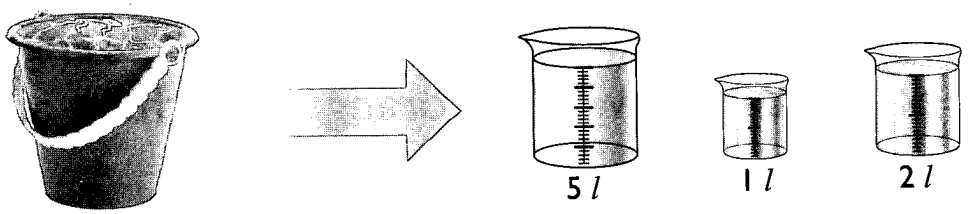
(b) The volume of water in Container B is _____ glasses.

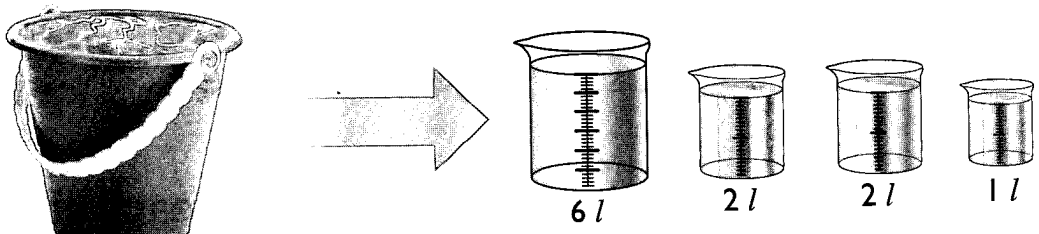
(c) The volume of water in Container D is _____ glasses more than Container A.

(d) Container _____ and _____ have the least volume.

(e) The total volume of water in Container A, B, C and D is _____ glasses.

5. Complete the sentences.

X: 

Y: 

(a) The volume of water in Pail Y is _____ liters.

(b) The volume of water in Pail Y is _____ liters more than Pail X.

(c) The total volume of water in Pail X and Y is _____ liters.

Exercise Three

1. There are 8 plastic bags. There are 3 oranges in each plastic bag. How many oranges are there altogether?

_____ ◯ _____ = _____

There are _____ oranges altogether.

2. There are 15 hair-clips and 3 girls. If each girl receives an equal number of hair-clips, how many clips does each girl get?

_____ ◯ _____ = _____

Each girl gets _____ hair-clips.

3. A tank was filled with 14 liters of water. 5 liters of the water was poured out. How much water was left?

_____ ◯ _____ = _____

_____ *l* of water was left.

4. Mr. Branson bought 17 liters of paint. After painting the house, he had 9 liters of paint left. How much paint was used to paint the house?

_____ ◯ _____ = _____

_____ paint was left.

5. The mass of parcel A is 632 g, parcel B is 298 g and parcel C is 299 g more than parcel B.

(a) What is the mass of parcel C?

_____ ◯ _____ = _____

The mass of parcel C is _____.

(b) What is the total mass of parcel B and C?

_____ ◯ _____ = _____

The total mass is _____.

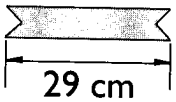
(c) How much heavier is parcel A than parcel B?

_____ ◯ _____ = _____

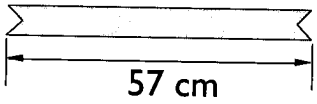
Parcel A is _____ heavier.

6. Look at the ribbons and answer the questions.

Emily's ribbon



Jane's ribbon



Siti's ribbon

(a) What is the total length of Jane's and Siti's ribbons?

_____ ◯ _____ = _____

The total length is _____.

(b) How much shorter is Emily's ribbon than Jane's?

_____ ◯ _____ = _____

Emily's ribbon is _____ shorter than Jane's ribbon.