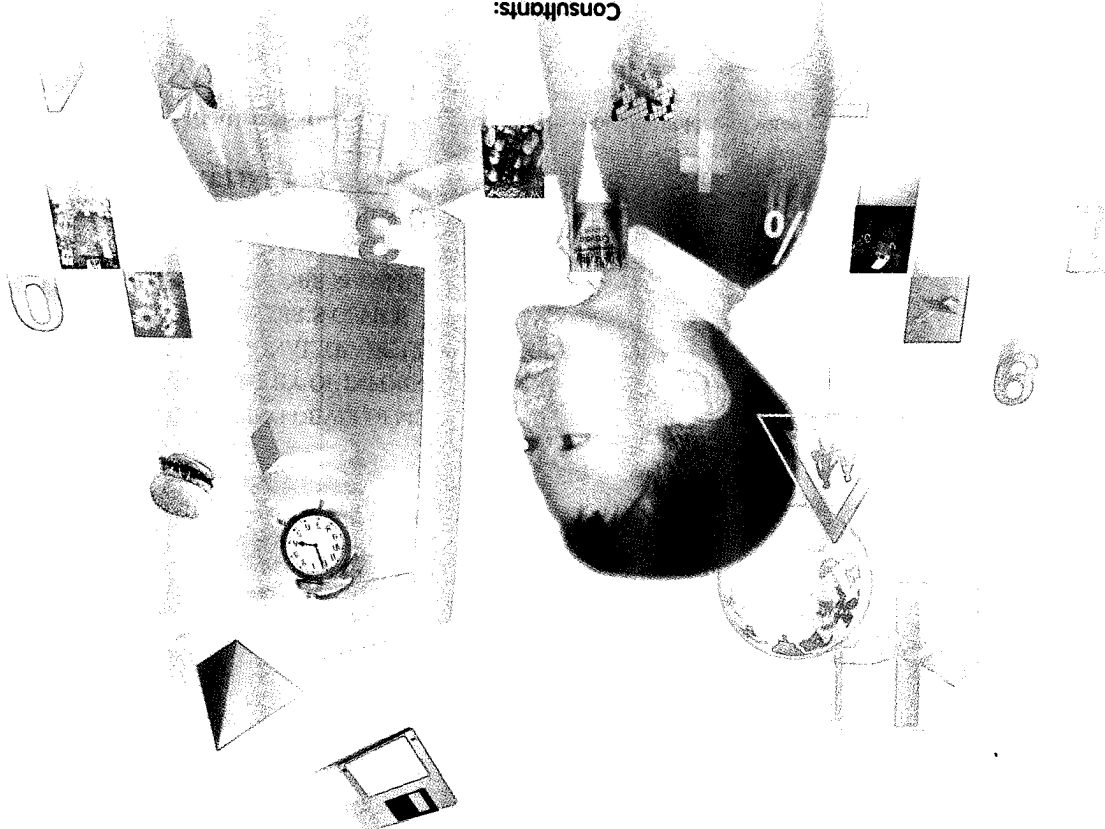


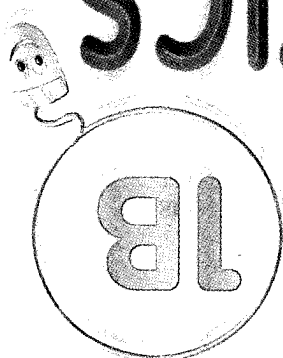
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Consultants: Prof. Foong Pui Yee • Dr. Fan Liang Huo



THINKING MATHEMATICS WORKBOOK 1



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Numbers To 40

Exercise one

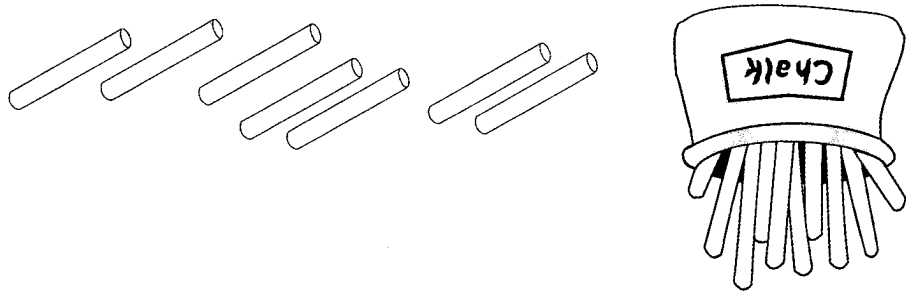


1. Count and write in words.

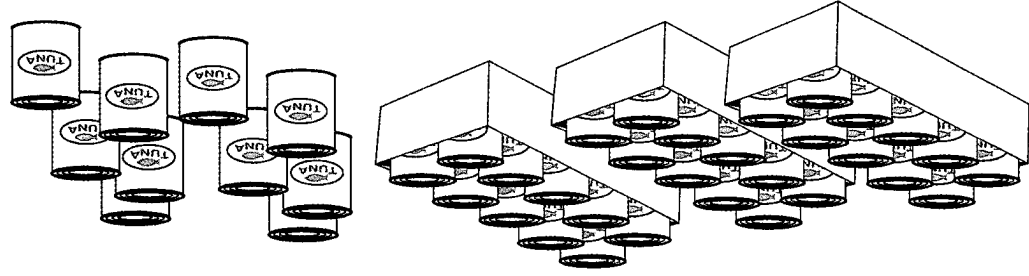
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2. Color.

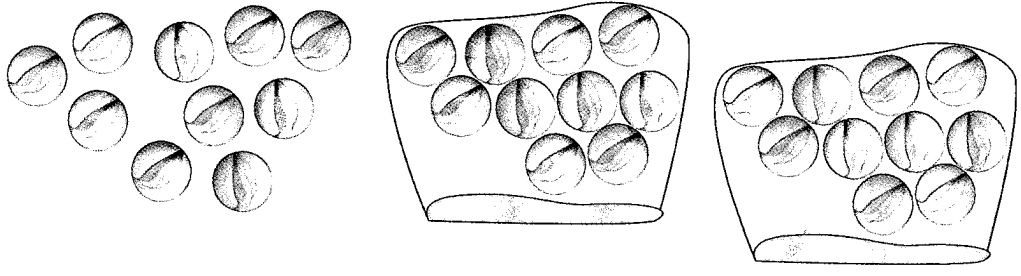
(a) 2 tens and 3 ones



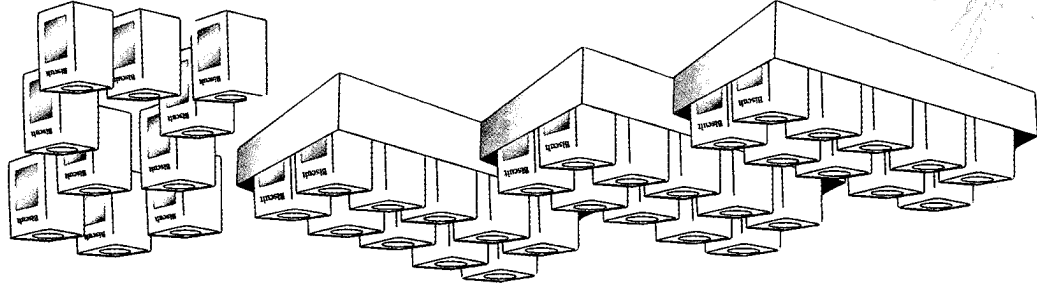
(b) 3 tens and 5 ones

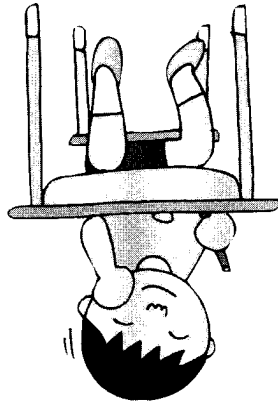


(c) 1 ten and 6 ones



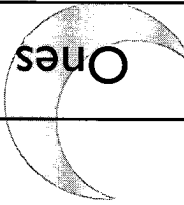
(d) 3 tens and 10 ones

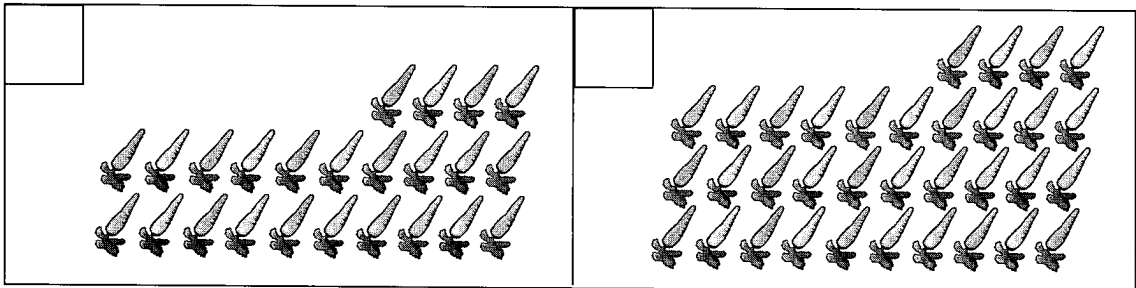
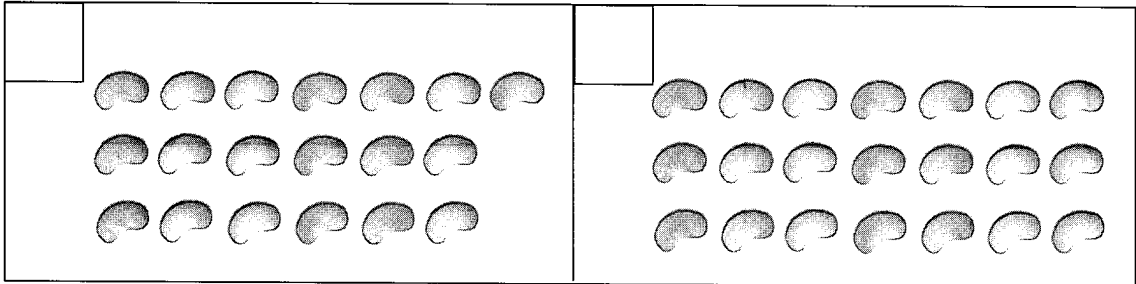
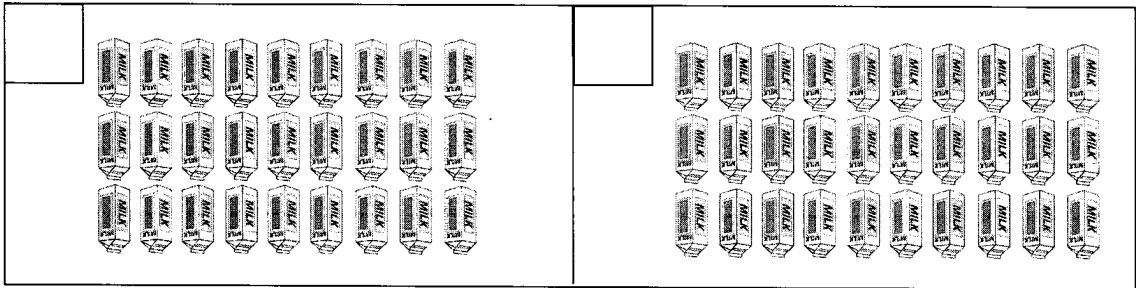
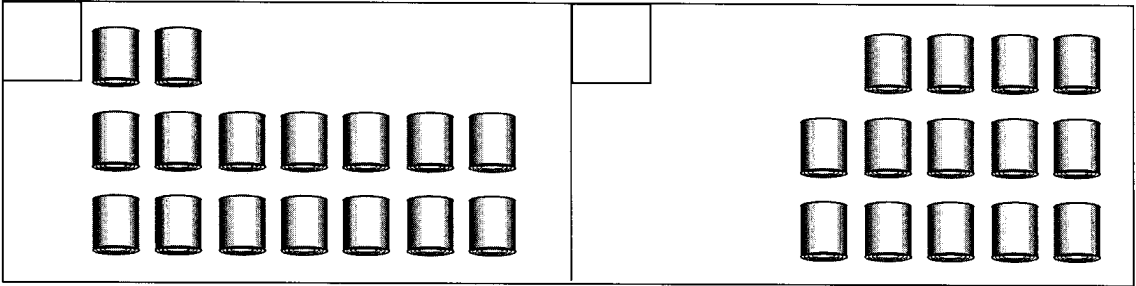
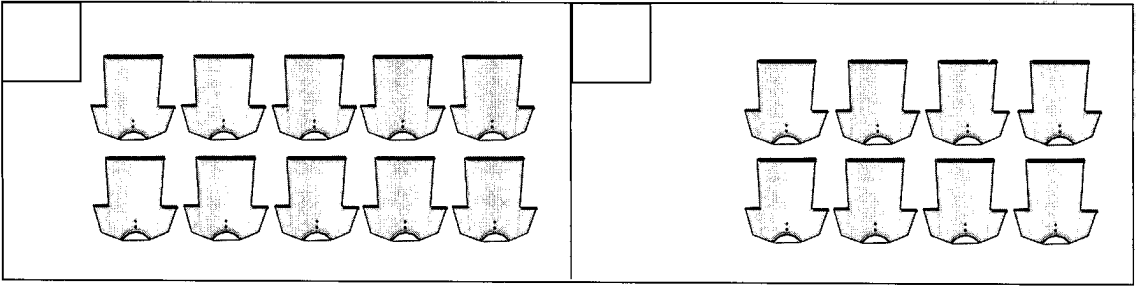




| Number | Number in words | Tens | Ones |
|--------|-----------------|------|------|
| 40 | | | |
| ★ | thirty-six | | |
| 4 | | | |
| | | 2 | 1 |
| | twenty | | |
| | | 3 | 9 |
| | thirteen | | |
| | thirty-two | | |

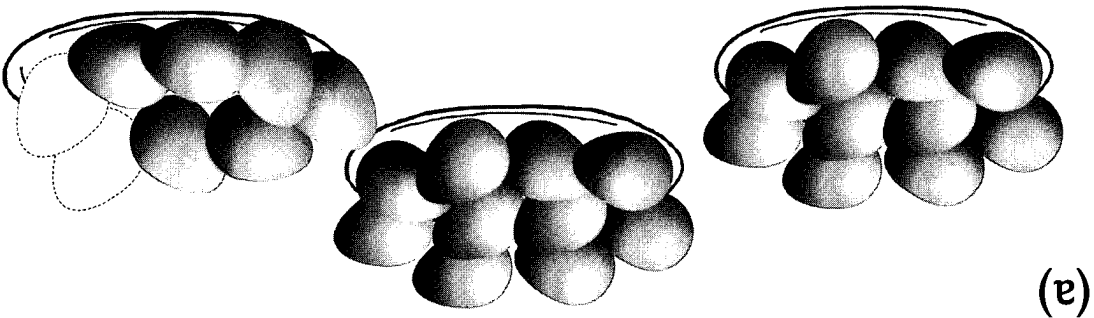
3. Complete the table.



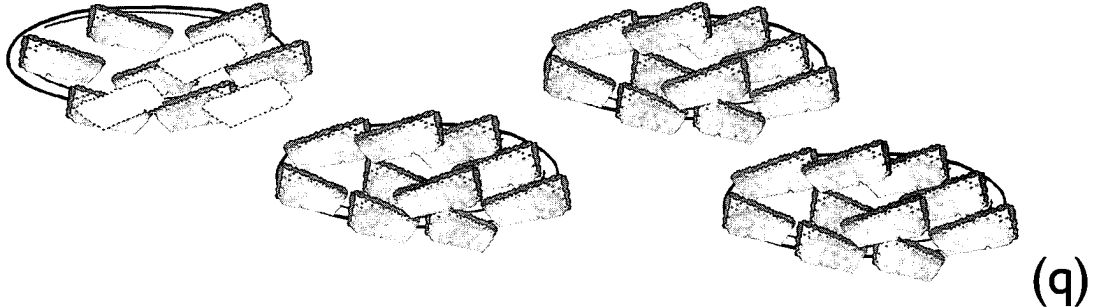


4. Ring groups of ten in each set. Then tick the set that has more.

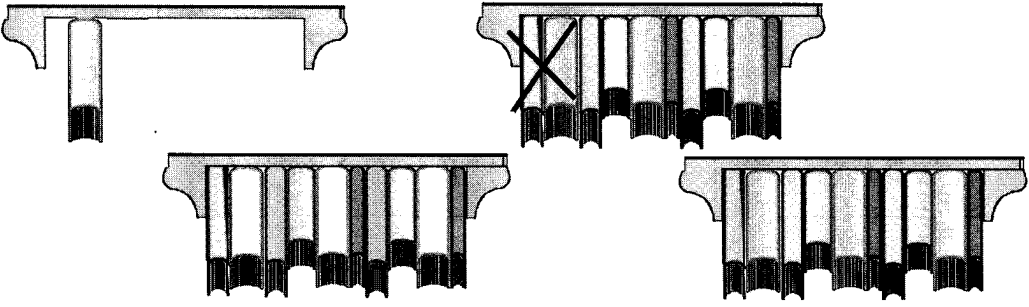
5. Fill in the blanks.



2 more than 26 is _____.



3 more than 37 is _____.

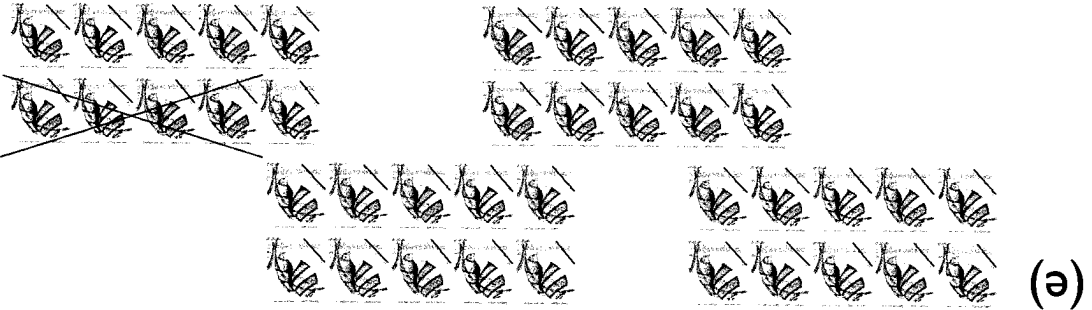


2 less than 31 is _____.

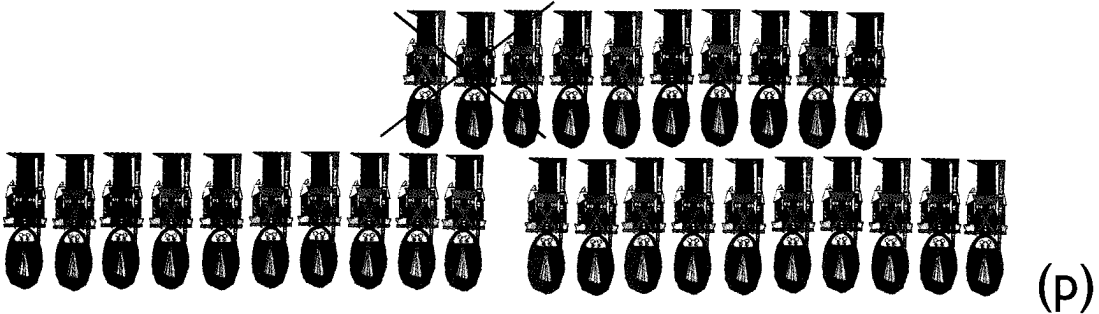
| | | | | | | | | | |
|----|----|----|----|----|---|----|----|----|----|
| | | | 37 | 36 | | 34 | 33 | 32 | |
| | 29 | | | | | 24 | 23 | 22 | 21 |
| | | 18 | 17 | 16 | | 14 | 13 | 12 | 11 |
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

6. Write all the missing numbers to complete this table.

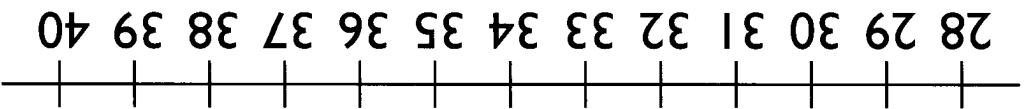
4 less than 40 is _____.



3 less than 30 is _____.



7. Fill in the blanks. Use the number line to help you.



(a) 30 is 1 more than _____.

(b) 32 is 3 more than _____.

(c) 29 is 2 less than _____.

(d) 30 is 10 less than _____.

(e) _____ is between 37 and 39.

(f) _____ is between 28 and 30.

8. Fill in the missing numbers.


(a) 32 = _____ tens _____ ones

(b) 25 = _____ tens _____ ones

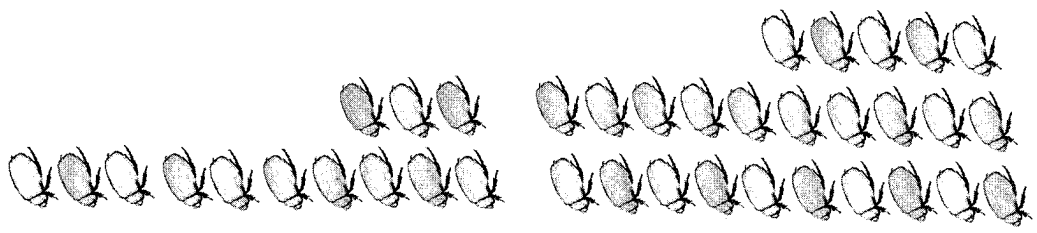
(c) 28 = _____ tens _____ ones

(d) 34 = _____ tens _____ ones

_____ = _____ tens _____ = 15 + 15 = _____ ones = _____

(b) 

_____ = _____ tens _____ = 25 + 13 = _____ ones = _____

(a) 

10. Fill in the blanks.

 Exercise two

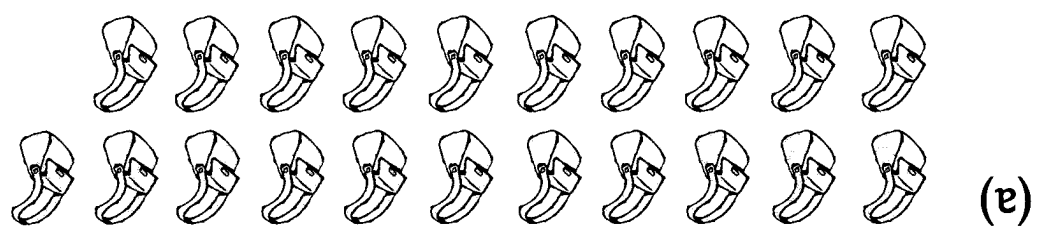
_____ smallest _____ greatest

- (a) Cross out the greatest number.
- (b) Circle the smallest number.
- (c) Arrange the rest of the numbers from the smallest to the greatest.

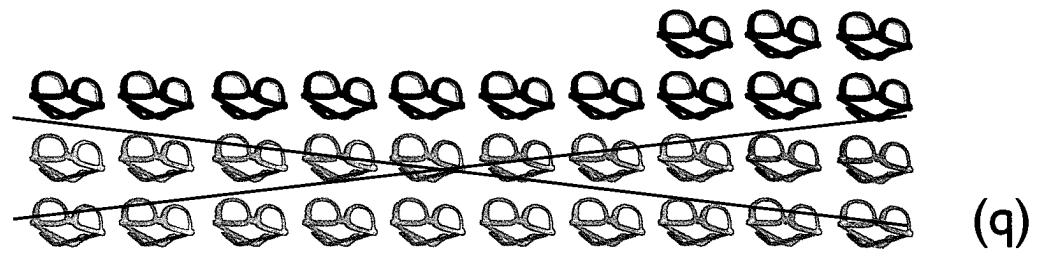
| | | |
|----|----|----|
| 32 | 28 | 34 |
| 8 | 40 | 14 |
| 25 | 10 | |

9. Look at the numbers in the box.

11. Do these.

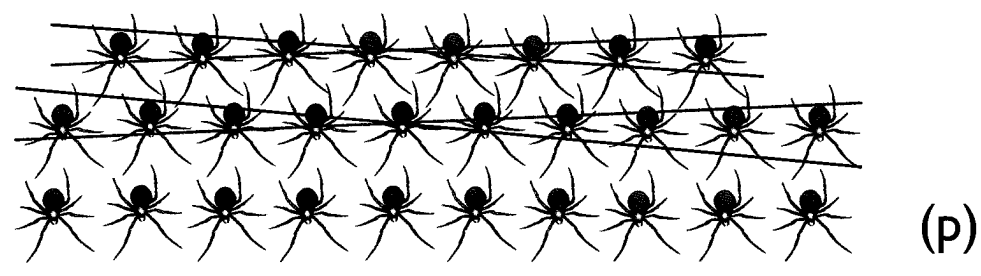


11 bags and 10 bags make _____ bags.

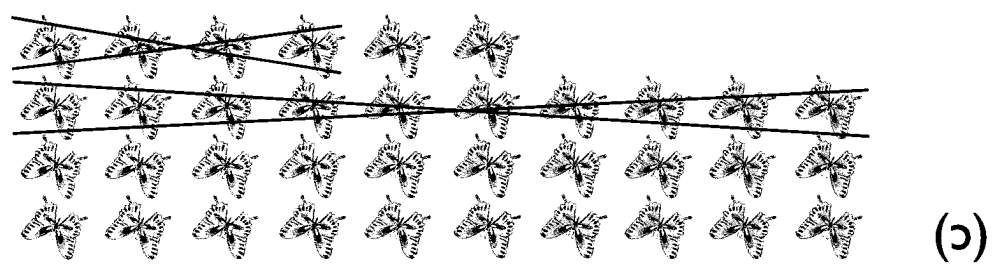


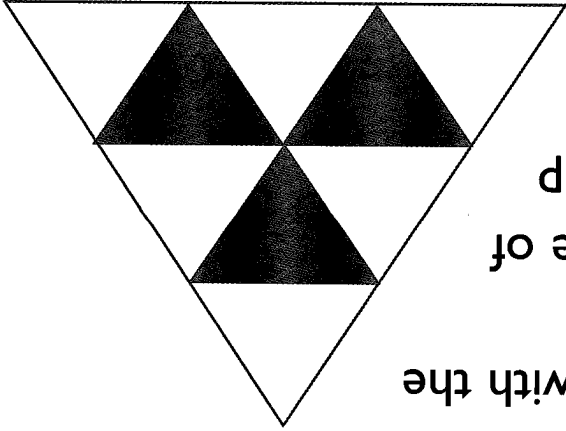
20 pairs of glasses taken away from 33 pairs of glasses make _____ pairs of glasses.

28 - 18 = _____ tens _____ ones = _____



36 - 14 = _____ tens _____ ones = _____





14. Fill in each small triangle with the number 2, 3, 4, 5, 6 or 7. The numbers on each side of the big triangle must add up to 12.

Exercise three



$$\square = \square + \square + \square$$

2 2 7 3

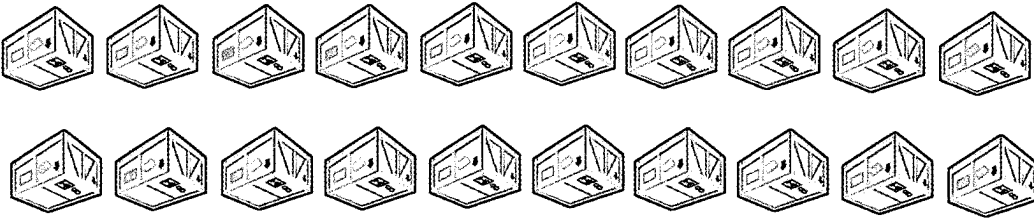
(b)

$$\square = \square - \square$$

6 13 7

(a)

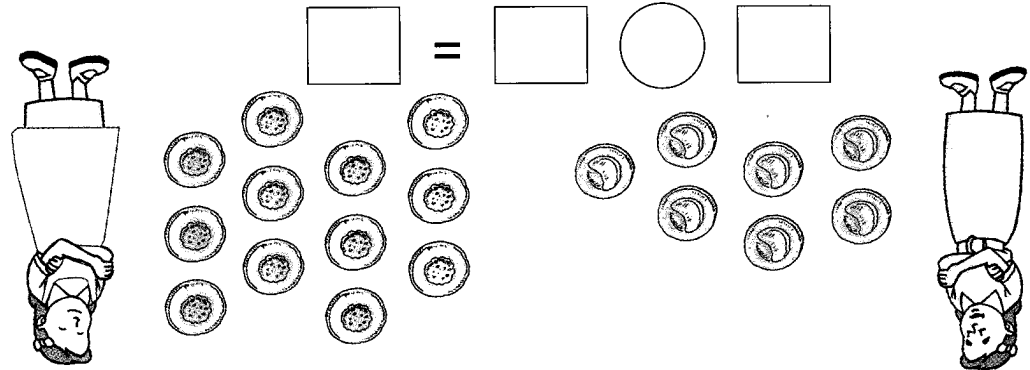
13. Write number sentences using all the numbers.



12. Color the crates to show $3 + 4 + 5$.

15. Do these word problems.

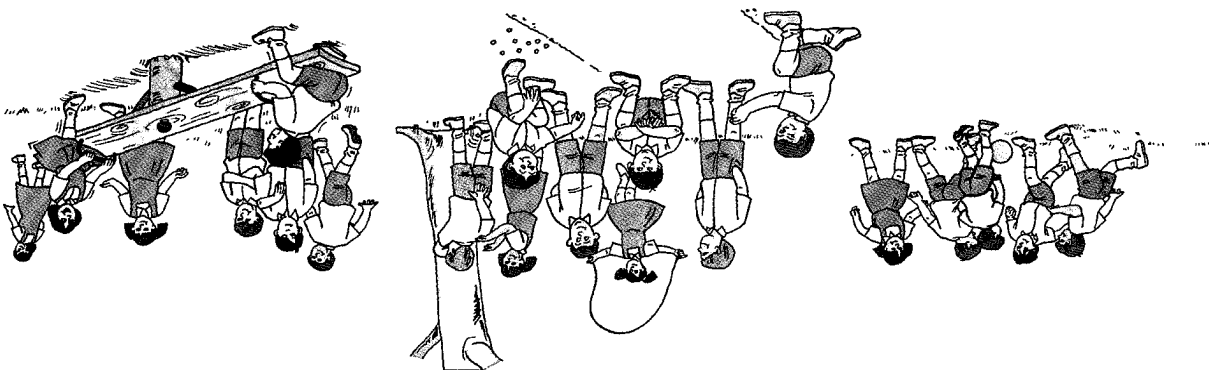
(a) Joyce made 12 pineapple tarts. Maria made 7 peach tarts. How many tarts did they make altogether?



They made _____ tarts altogether.

□ = □ ○ □

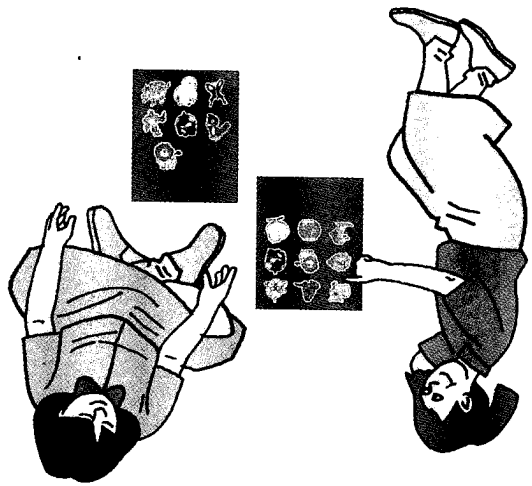
(b) There are 14 boys and 6 girls on a school field. How many children are on the field altogether?



There are _____ children altogether.

□ = □ ○ □

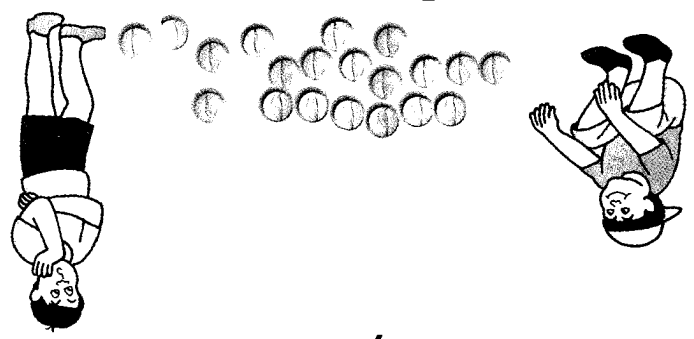
(c) Devi has 16 stickers. She gives her sister 7 stickers. How many stickers does Devi have now?



$$\square = \square \ominus \square$$

Devi has _____ stickers now.

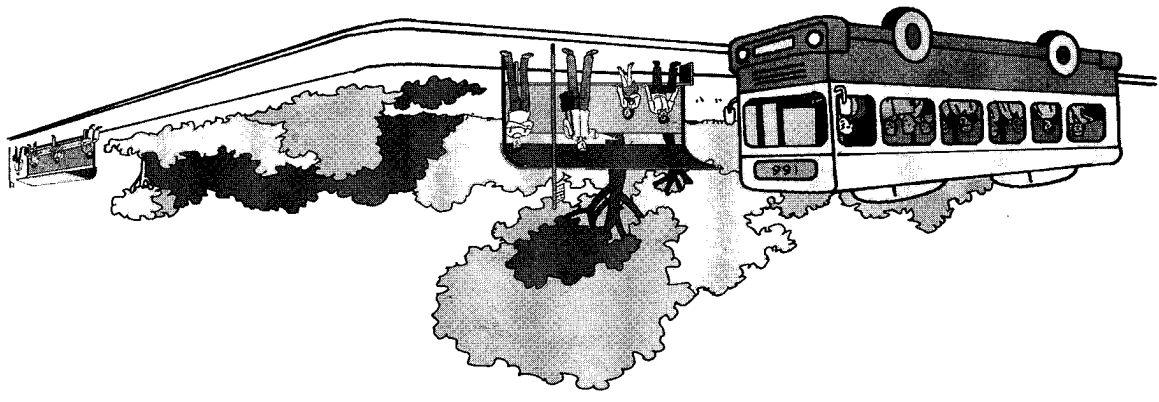
(d) Al and Andy have 20 marbles altogether. Al has 12 marbles. How many marbles does Andy have?



$$\square = \square \oplus \square$$

Andy has _____ marbles.

(e) There are 9 people on a bus. At the first bus stop, 4 people get on. At the next bus stop, another 4 people get on. How many people are on the bus now?



$$\square = \square \bigcirc \square \bigcirc \square$$

There are _____ people on the bus now.

Multiplication

Exercise one



1. Fill in the blanks.

(a)

3 groups of 4 is the same as

$$\square = \square + \square + \square$$

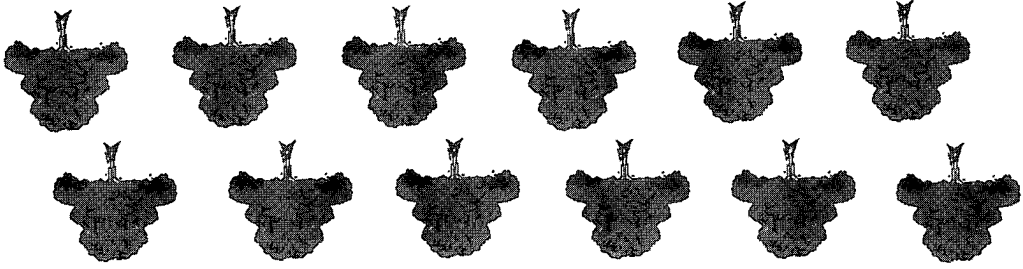
(b)

6 groups of 2 is the same as

$$\square = \square + \square + \square + \square + \square + \square + \square$$

$$\square = 6 \times \square$$

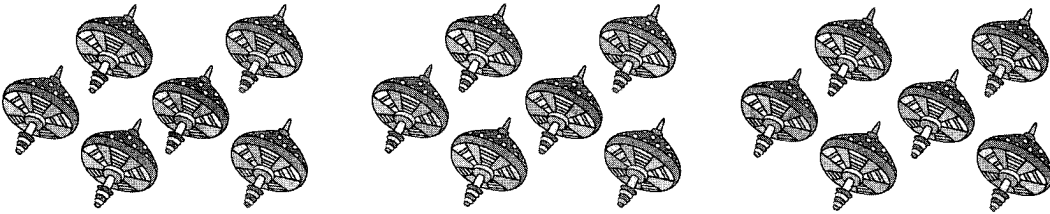
There are _____ groups of 6.



(a) Ring groups of 6.

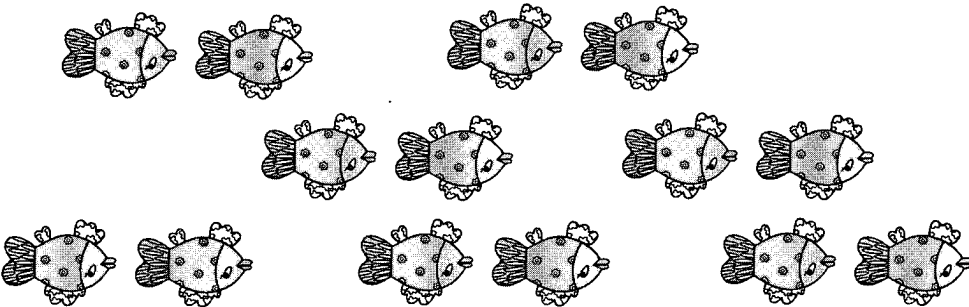
3. Fill in the blanks.

$$\square = 3 \times 6$$



(b)

$$\square = 7 \times 2$$

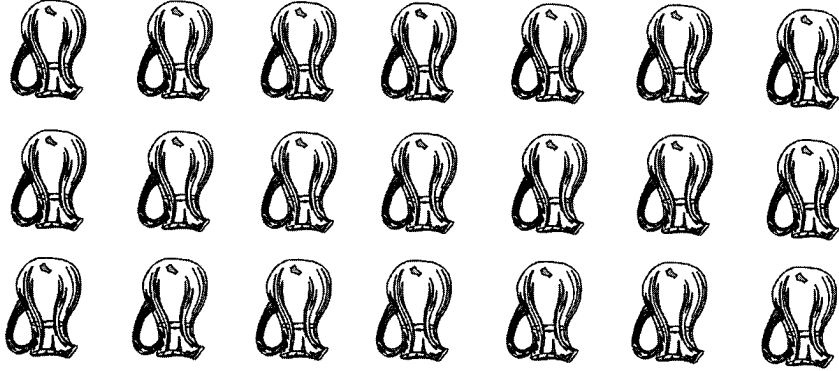


(a)

2. Do these.

$$\square = 3 \times \square$$

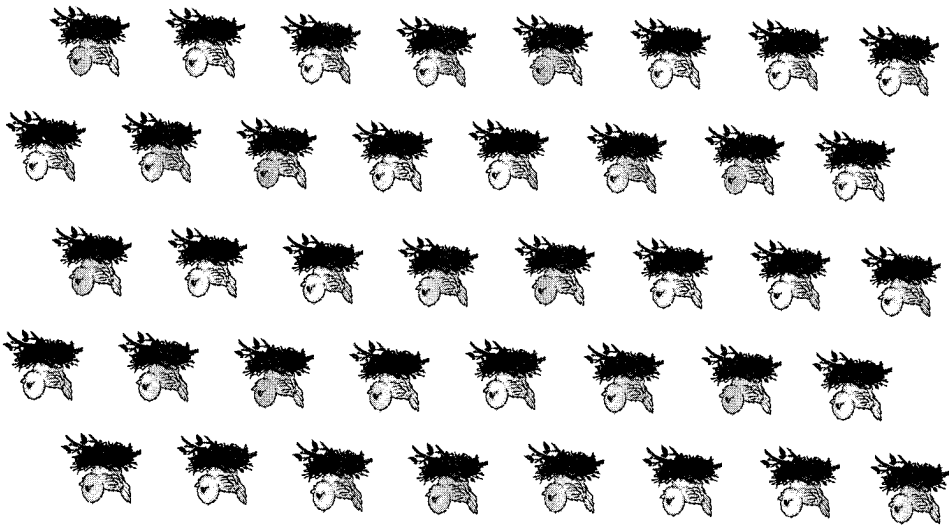
There are _____ groups of 3.



(c) Ring groups of 3.

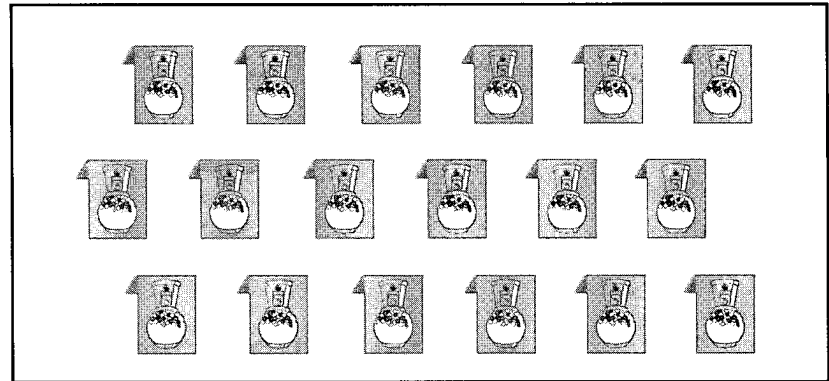
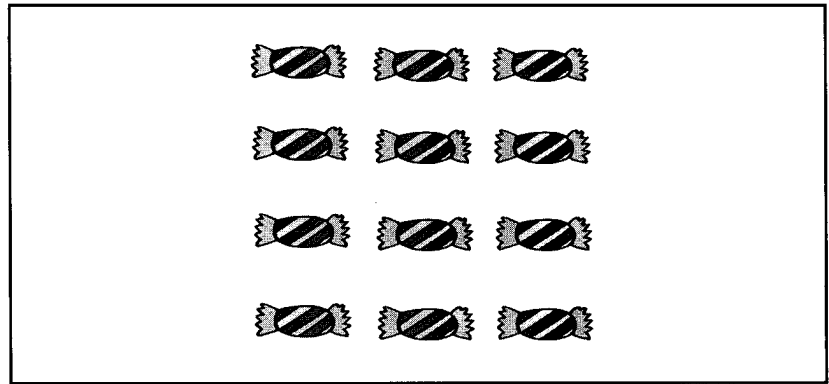
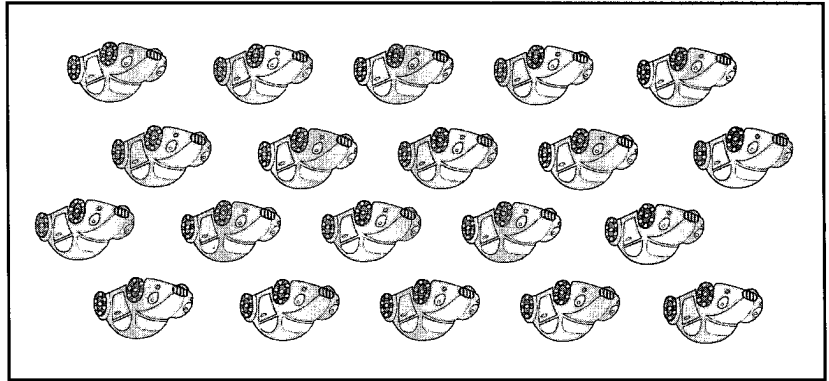
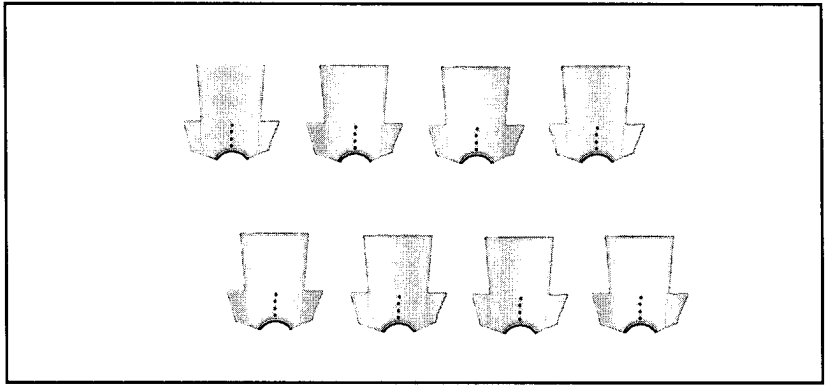
$$\square = 5 \times \square$$

There are _____ groups of 5.



(b) Ring groups of 5.

4. Match.



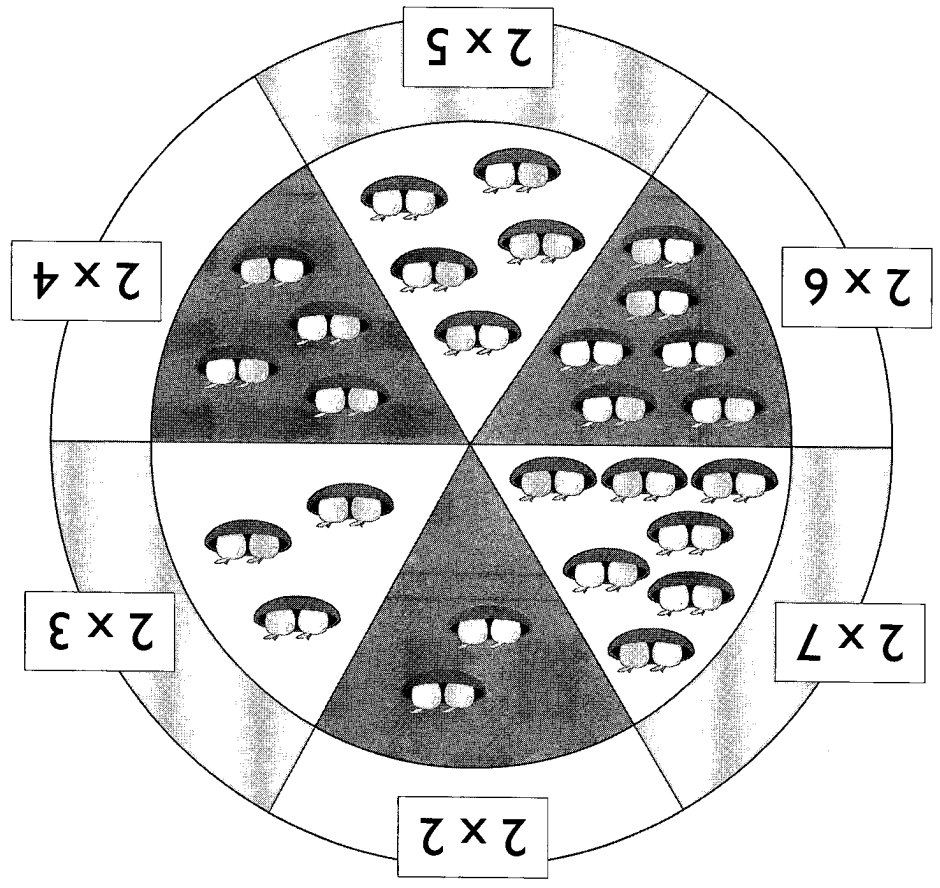
4×3

2×4

3×6

4×5

5. There are 2 apples on each plate. Can you see a pattern in the multiplication wheel?



(a) Do these.

$2 \times 2 =$ _____

$2 \times 3 =$ _____

$2 \times 4 =$ _____

$2 \times 5 =$ _____

$2 \times 6 =$ _____

$2 \times 7 =$ _____

(b) Give the answer for:

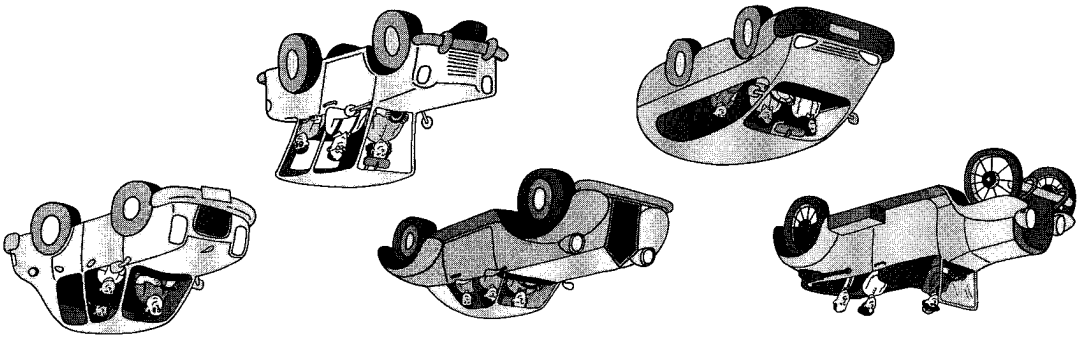
_____ $2 \times 10 =$ _____



Exercise two

6. Do these problems.

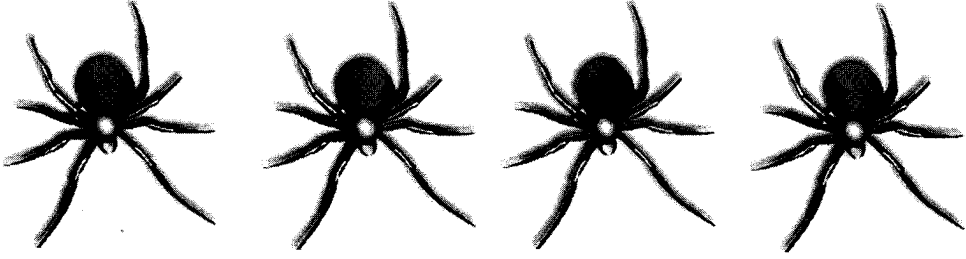
(a) There are 3 people in each car. How many people are there in 5 cars?



$$\square = \square \times \square$$

There are _____ people in 5 cars.

(b) A spider has 8 legs. How many legs do 4 spiders have altogether?

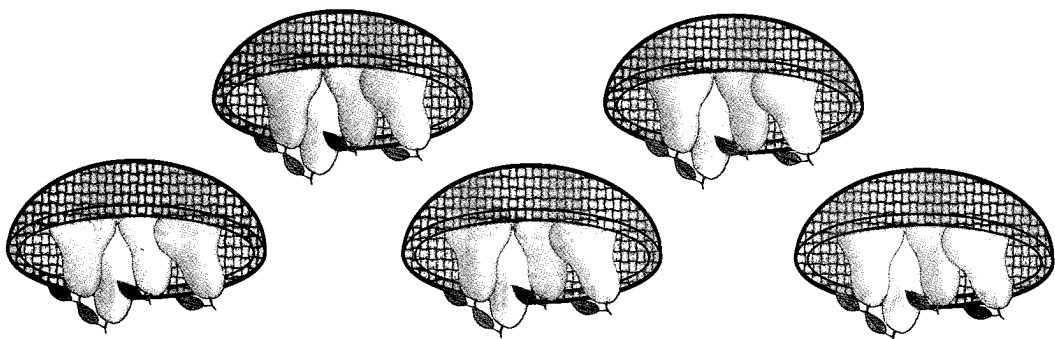


$$\square = \square \times \square$$

4 spiders have _____ legs altogether.

7. Do these problems.

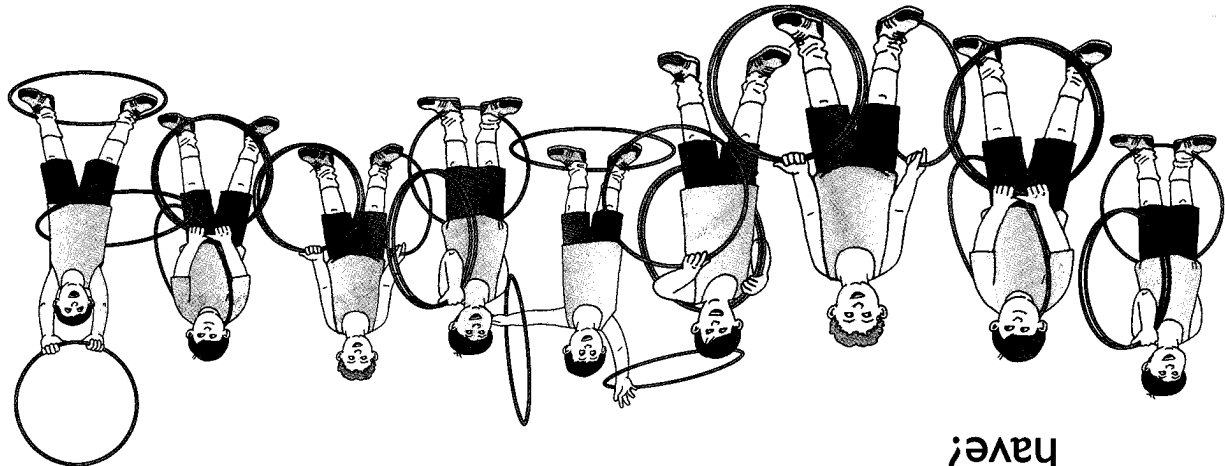
(a) There are 4 pears in 1 basket. How many pears are there in 5 such baskets?



$$\square = \square \times \square$$

There are _____ pears in 5 baskets.

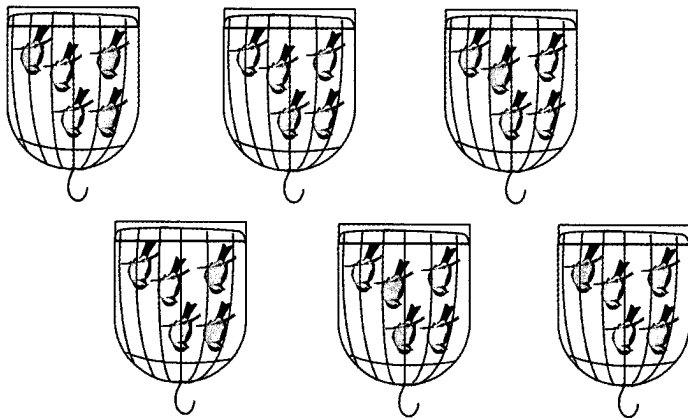
(b) Each boy has 3 hoops. How many hoops do 9 boys have?



$$\square = \square \times \square$$

9 boys have _____ hoops.

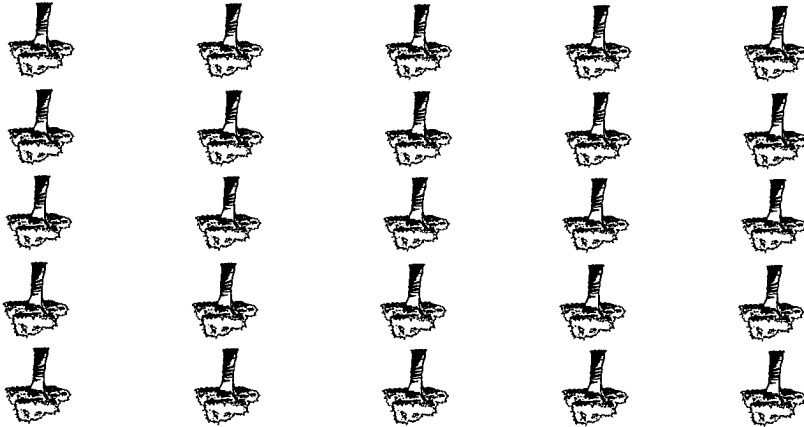
(c) Mr. Smith has 6 bird cages. He has 5 birds in each cage. How many birds does Mr. Smith have?



$$\square = \square \times \square$$

Mr. Smith has _____ birds.

(d) There are 5 trees in each row. How many trees are there in 5 rows?



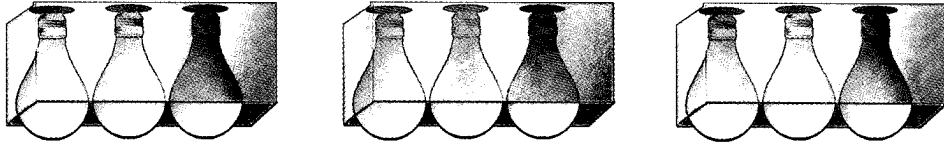
$$\square = \square \times \square$$

There are _____ trees in 5 rows.

Mr. Jones buys _____ light bulbs.

$$\square = \square \times \square$$

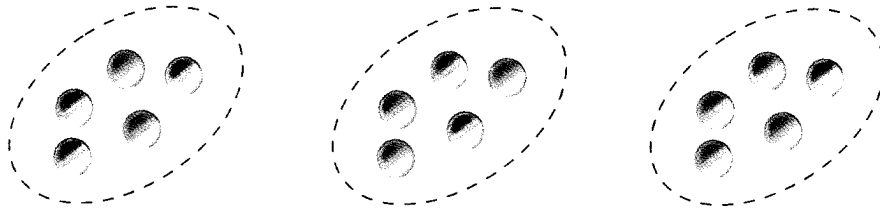
$$\square = \square + \square + \square$$



9. Mr. Jones buys 3 packs of light bulbs. There are 3 light bulbs in each pack. Write an addition sentence and a multiplication sentence to show the number of light bulbs Mr. Jones buys.

There are _____ ping-pong balls altogether.

$$\square = \square \times 5$$

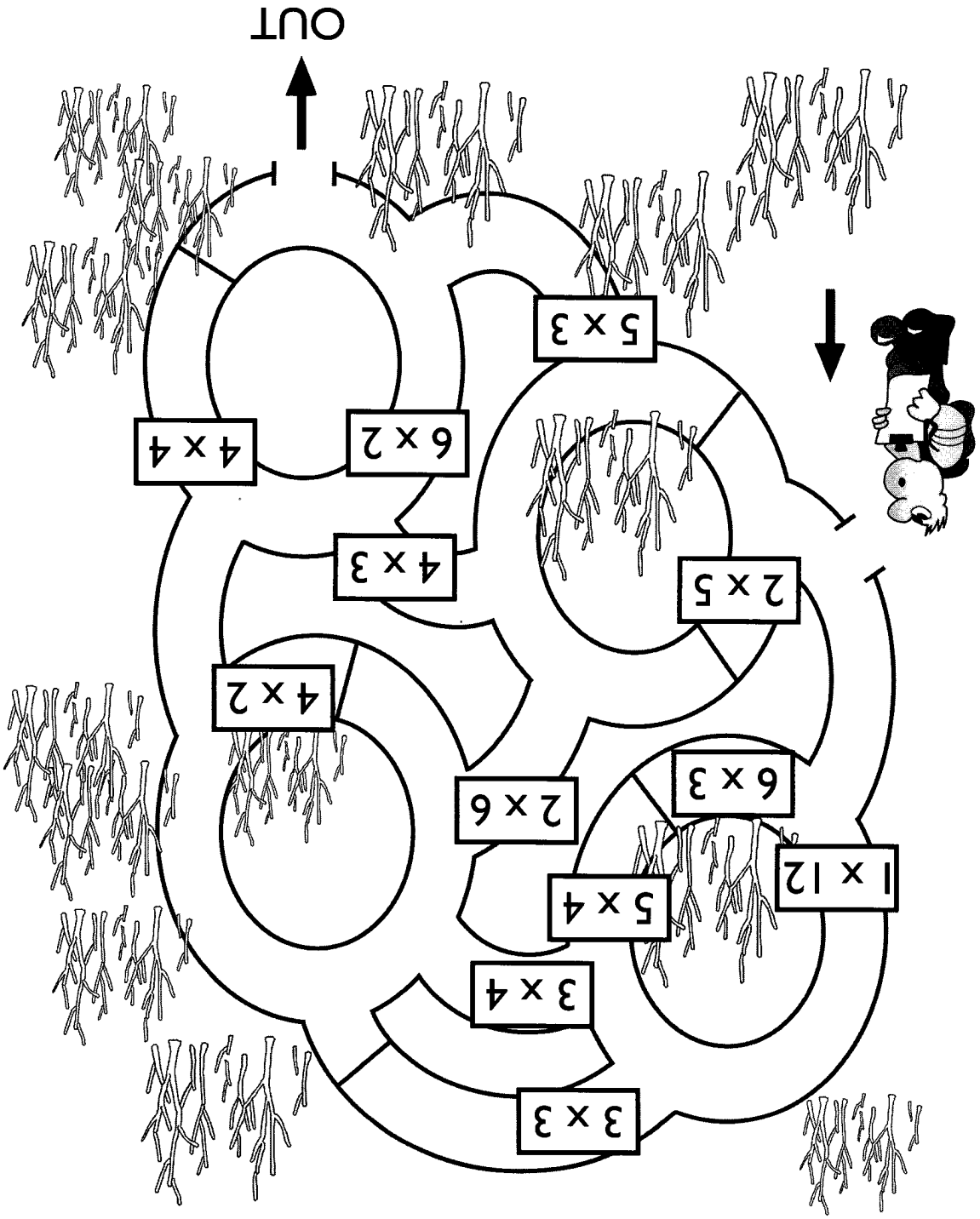


8. There are 3 groups of 5 ping-pong balls. How many ping-pong balls are there altogether?

Exercise three



10. Help Tommy find his way out of the maze. Tommy can take the path that has answers of 12. Draw his path.



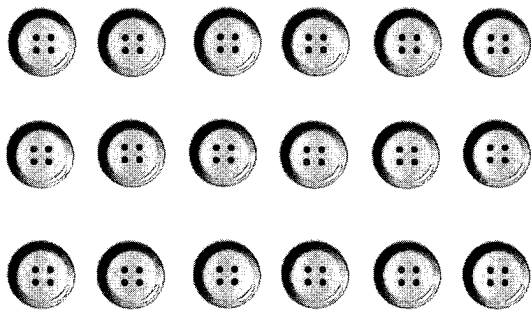
Division

Exercise one



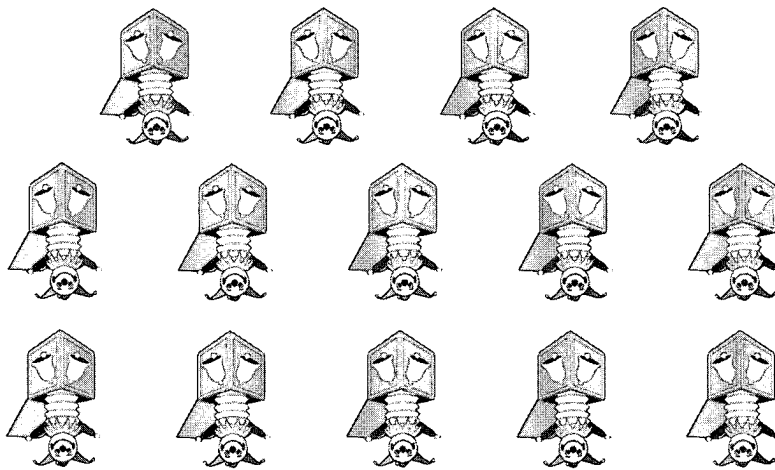
1. Do these.

(a) Ring groups of 2.



There are _____ groups of 2 buttons.

(b) Ring groups of 7.



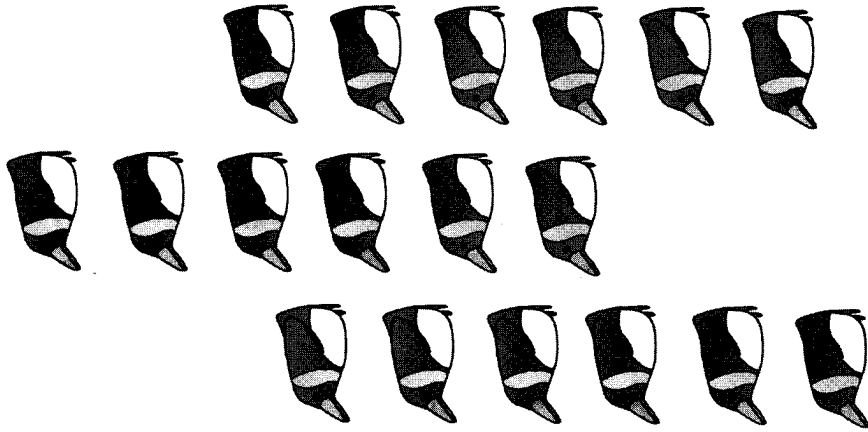
There are _____ groups of 7 jack-in-the-boxes.

$$\square = \square \circ \square$$

(b) Write a multiplication sentence for this picture.

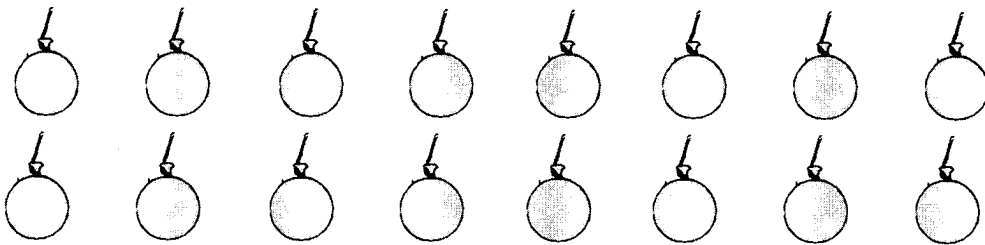
$$\square = \square + \square + \square$$

(a) Write an addition sentence for the picture.

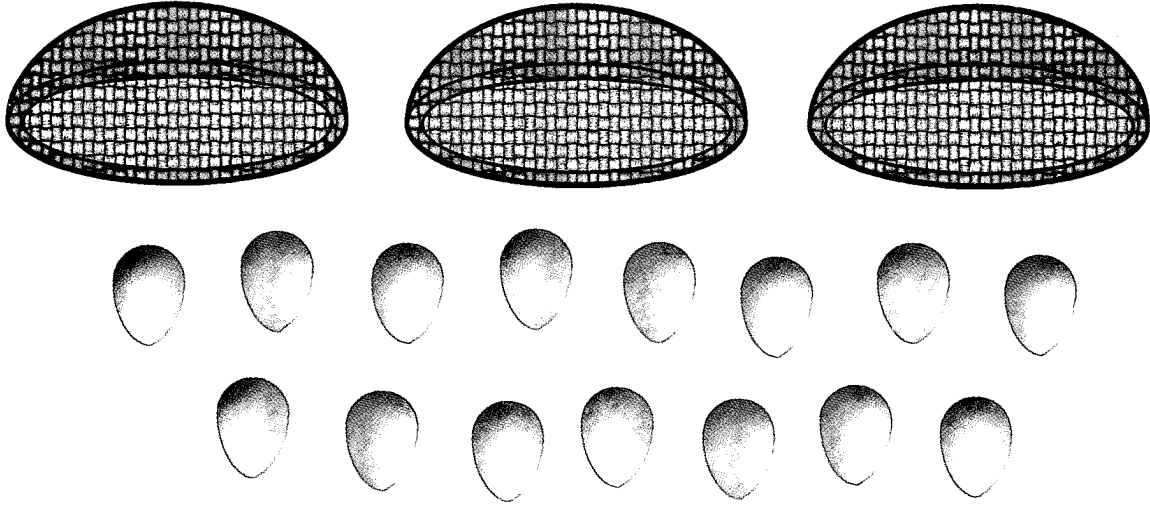


2 Look at this picture.

There are _____ groups of 4 balloons.

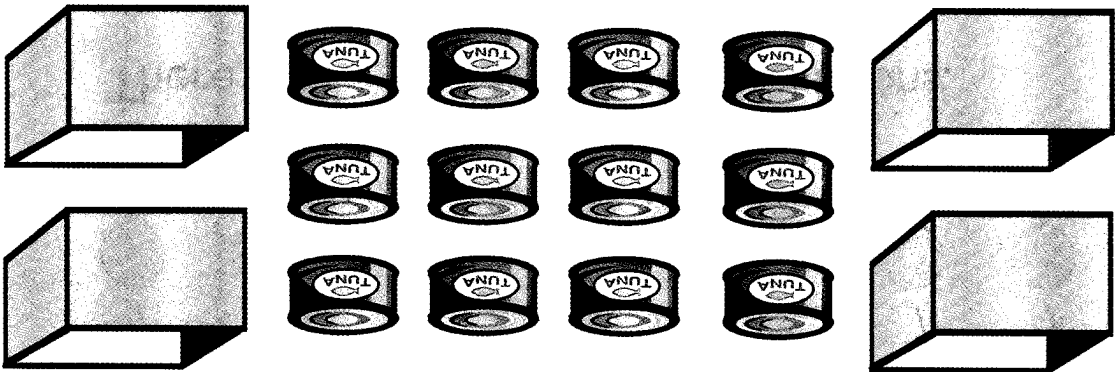


(c) Ring groups of 4 balloons.



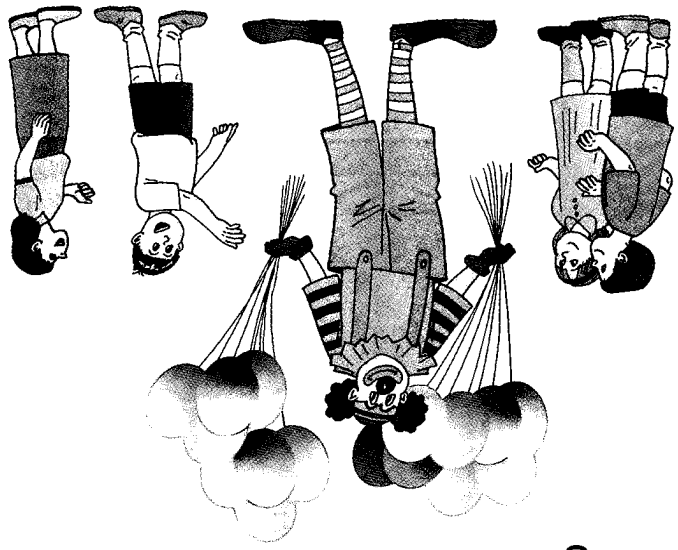
4. (a) Maria buys 15 eggs. She puts them equally into 3 baskets. Ring the eggs Maria puts in each basket.

There are _____ tins in each box.



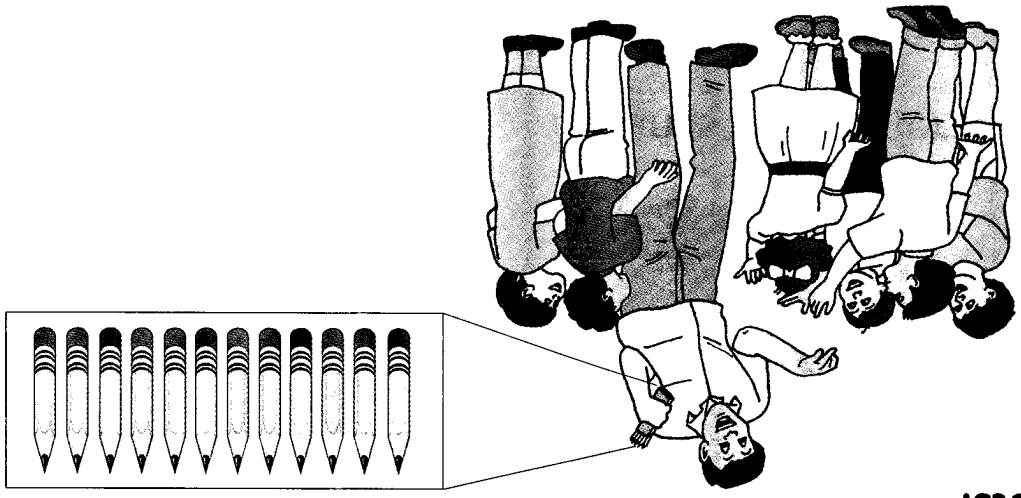
3. Put 12 tins equally into 4 boxes.

(b) A clown has 16 balloons. He divides them equally among 4 children. Draw the number of balloons each child gets.



Each child gets _____ balloons.

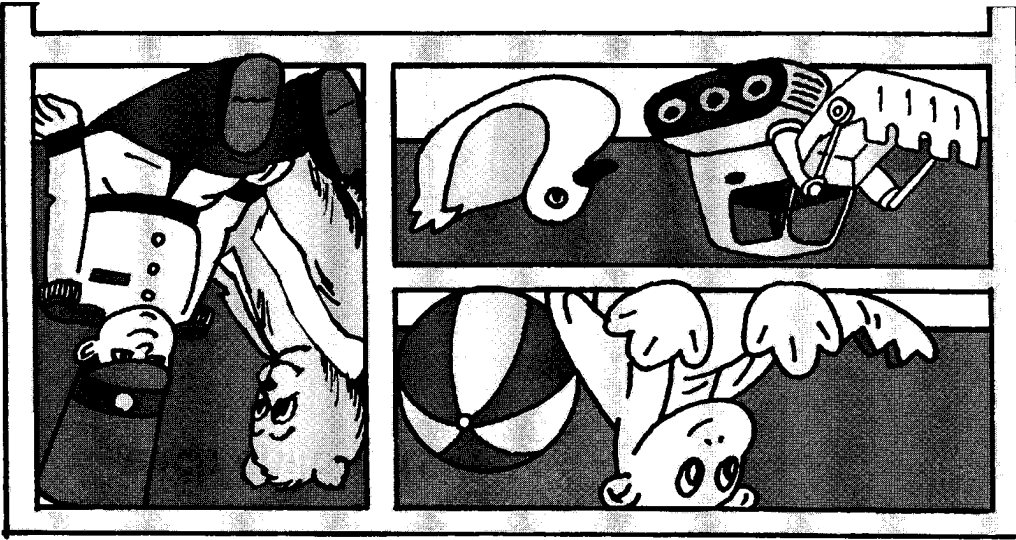
(c) Mr. Smith has 12 pencils. He divides them equally among 6 students. Ring the pencils each student gets.



Each student gets _____ pencils.

5. Fill in the blanks.

(a)

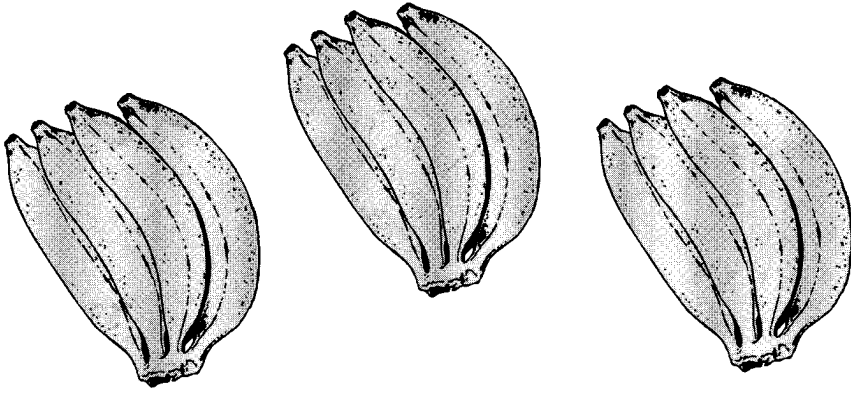


There are _____ toys altogether.

There are _____ shelves of toys.

There are _____ toys in each shelf.

(b)



There are _____ bananas altogether.

There are _____ bunches of bananas.

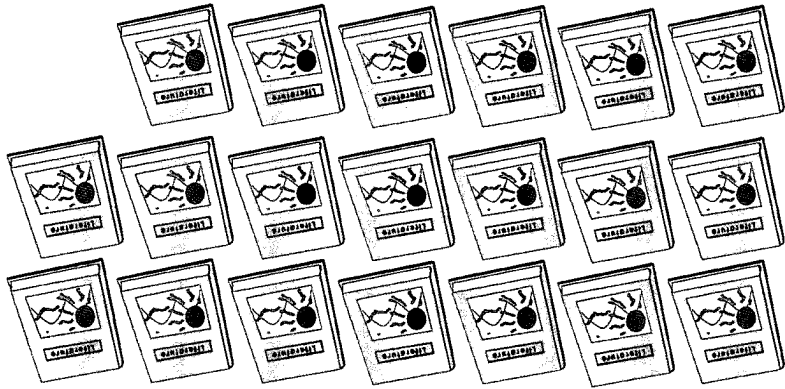
There are _____ bananas in each bunch.

There will be _____ storybooks in each shelf.

shelves.

Jane wants to group the storybooks equally onto 5

There are _____ storybooks altogether:



6

Exercise two



There are _____ buns on each plate.

The buns are put equally on _____ plates.

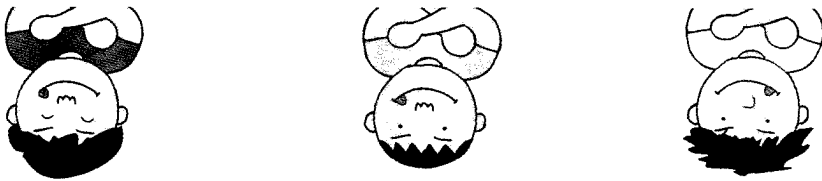
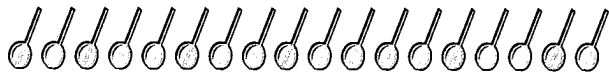
There are _____ buns altogether.



(c)

7. 3 boys share 18 lollipops equally.

How many lollipops does each boy get?



18 lollipops are shared among $\underline{\hspace{2cm}}$ boys.

Each boy gets $\underline{\hspace{2cm}}$ lollipops.

8. Joyce bakes 20 pineapple tarts and puts them equally into small jars. She puts 4 pineapple tarts in one jar. How many jars does she use?

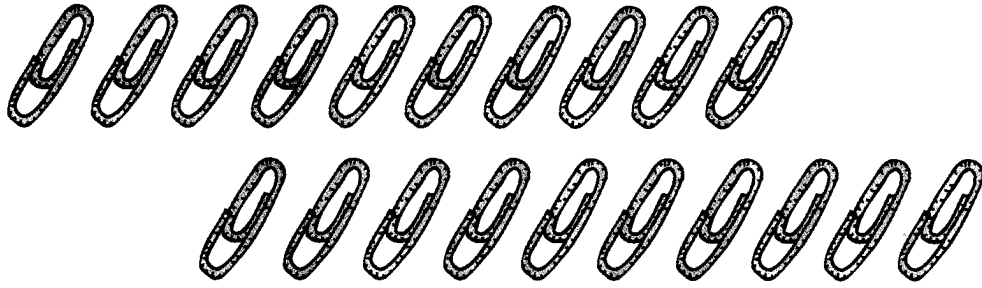


There are 20 tarts altogether.

One jar can hold $\underline{\hspace{2cm}}$ tarts.

Joyce uses $\underline{\hspace{2cm}}$ jars.

9. Kate has 20 paperclips. She joins them to form 2 equal chains. How many paperclips are there in each chain?



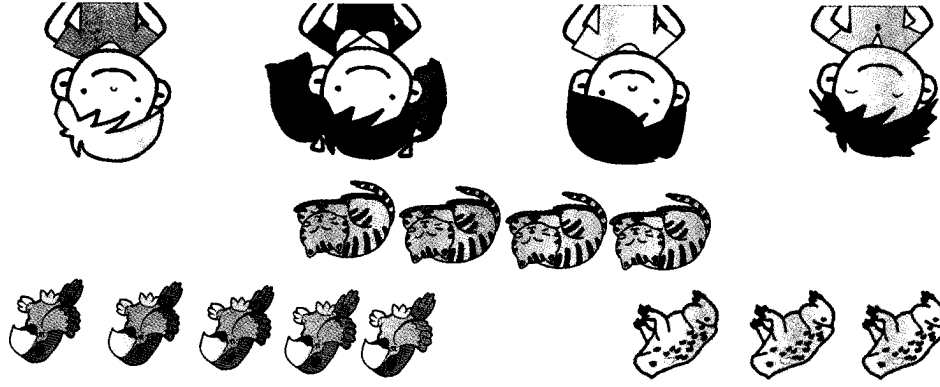
_____ are grouped into _____ chains.

There are _____ paperclips in each chain.

Exercise three



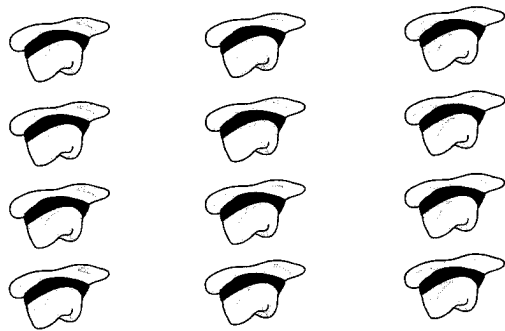
10. 4 children have 3 frogs, 4 cats and 5 birds altogether. The children have an equal number of pets each. How many pets does each child have?



4 children have _____ pets.

Each child has _____ pets.

11. Fill in the blanks.



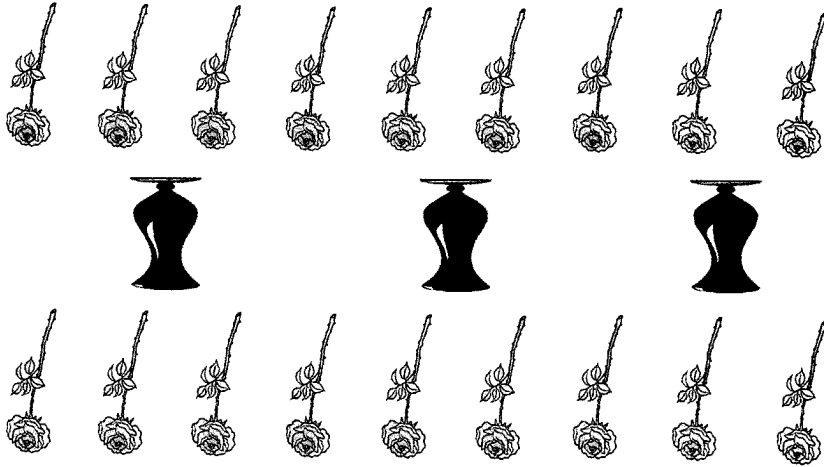
There are 12 hats altogether:

I can make _____ groups of 3 hats.

I can make _____ groups of 4 hats.

12. Sarah has 18 stalks of roses. She wants to put the same number of roses into each vase.

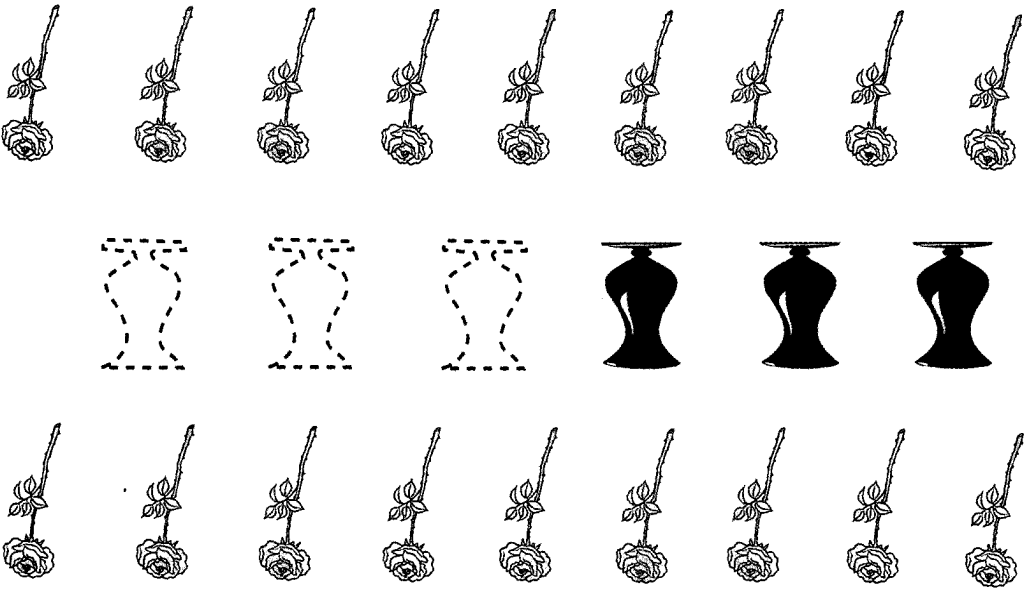
(a) If she has 3 vases, how many roses will there be in each vase?



_____ roses are put into 3 vases.

There will be _____ roses in each vase.

(b) If Sarah buys 3 more vases, how many roses should she now put in each vase?



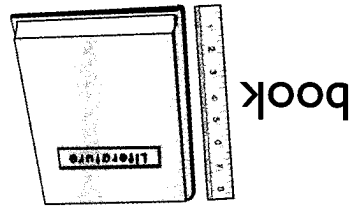
18 roses are put into _____ vases.

Sarah should put _____ roses in each vase.

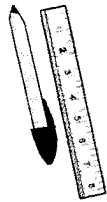
Length

★ Exercise one

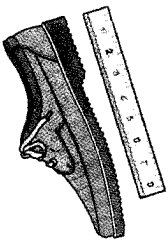
1. Fill in the blanks.



book



pen



shoe

(a) The _____ is as long as the ruler.

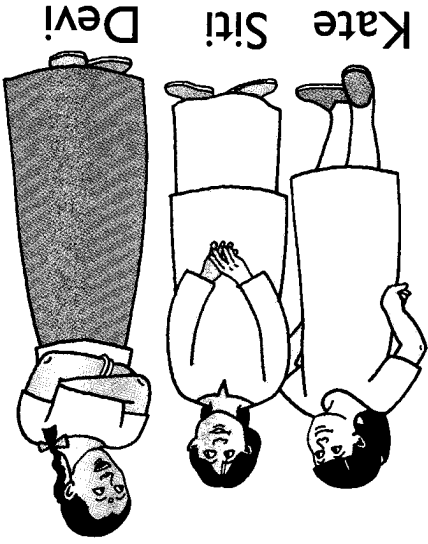
(b) The _____ is longer than the ruler.

(c) The _____ is shorter than the ruler.

2. List in order:

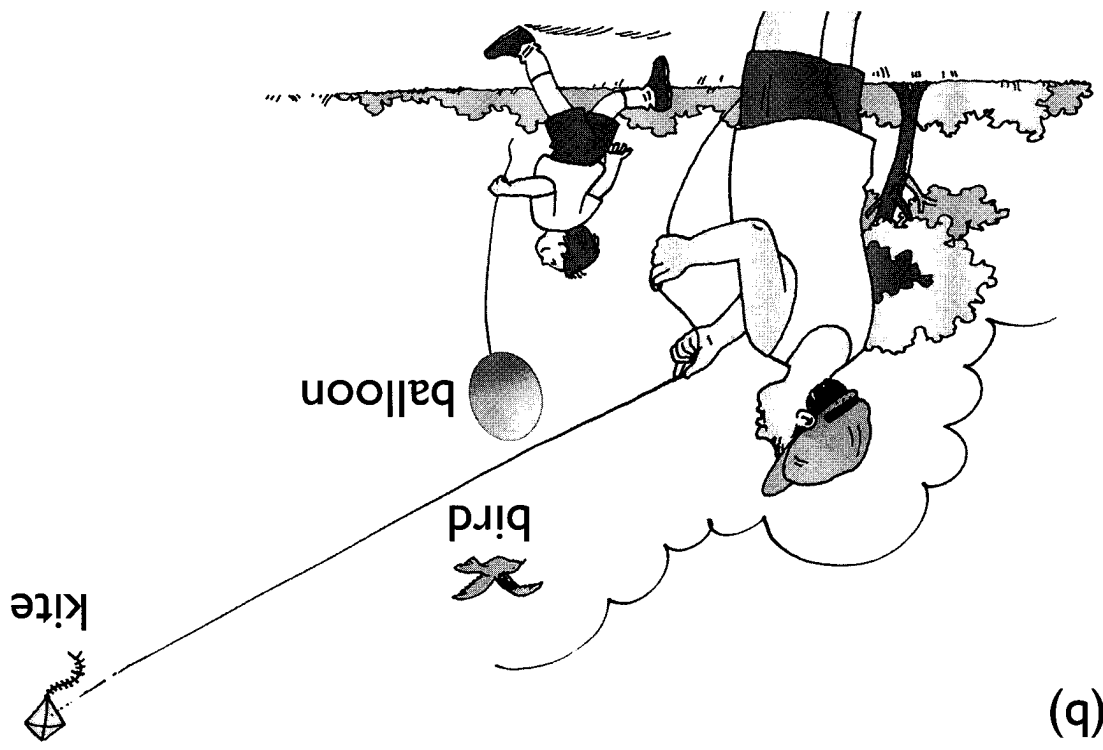
(a) from the tallest

to the shortest.



_____ tallest
_____ shortest

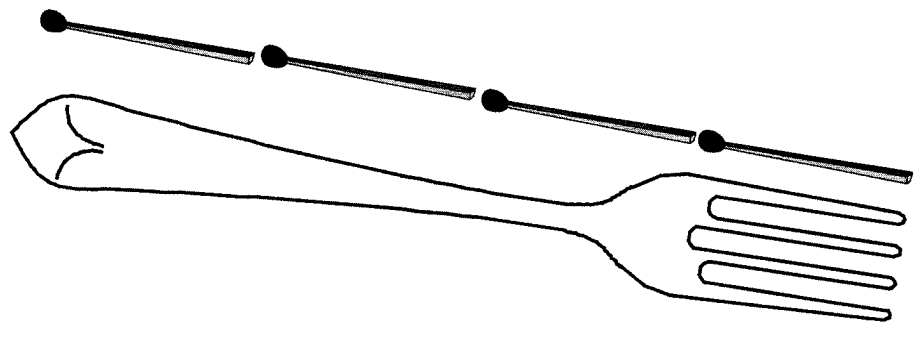
(b)



from the lowest to the highest.

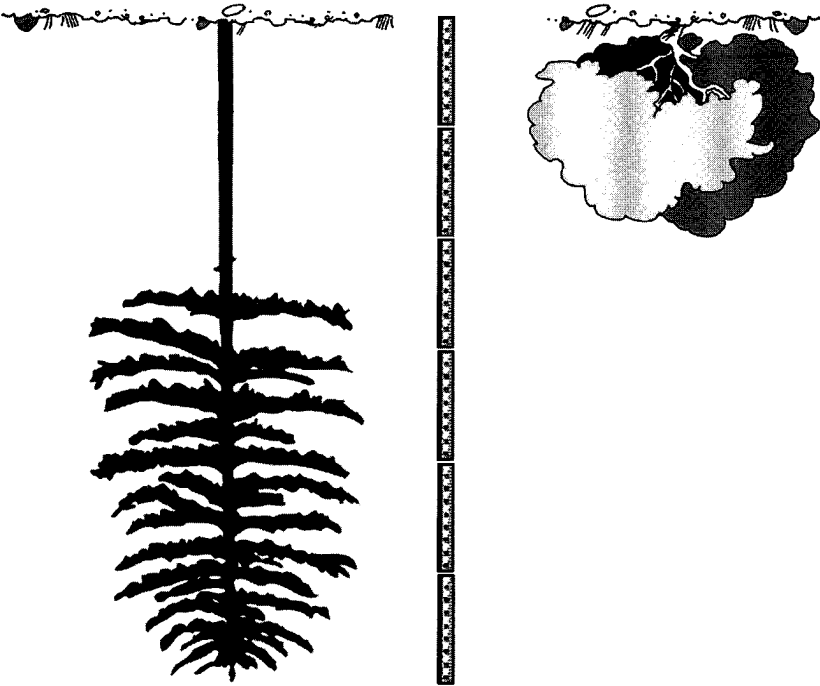


3. Let  be 1 unit.



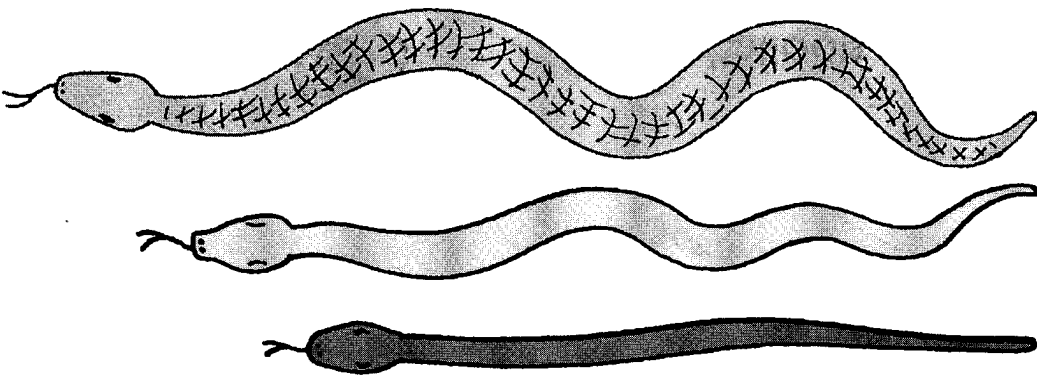
The length of the fork is about _____ units.

The bush is about _____ rulers tall.
The tree is about _____ rulers tall.



5.

Snake _____ is the longest.
Snake _____ is the shortest.



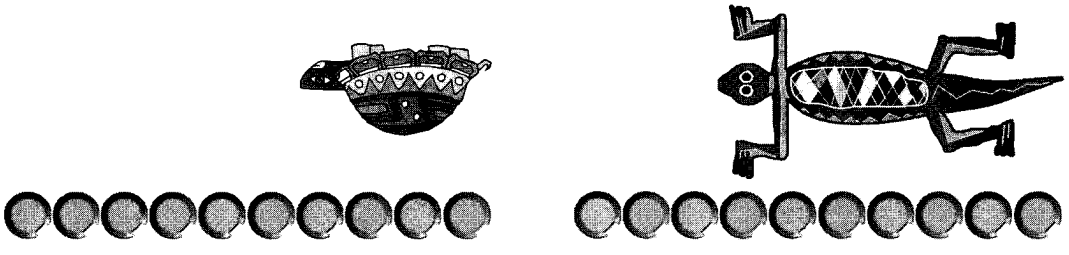
L
K
J

4.



Exercise two

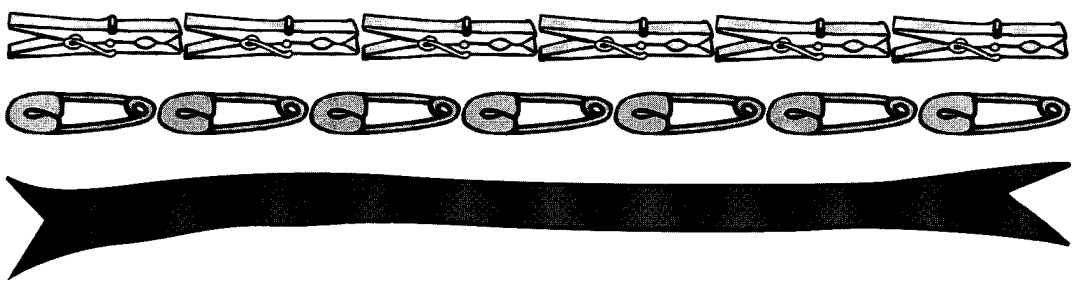
6. Look at the picture. Then circle the correct answer.



(a) The toy tortoise is about 5 counters long. Yes/No

(b) The toy lizard is about 7 counters long. Yes/No

7.



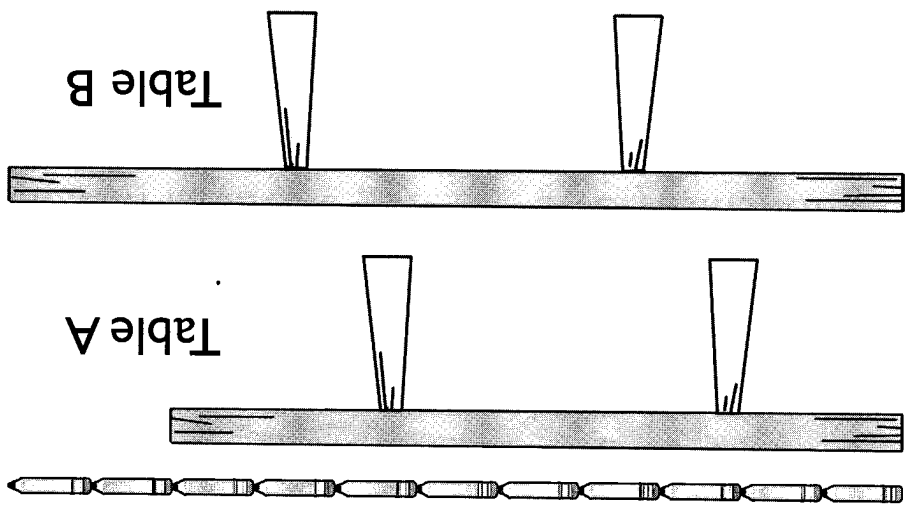
The ribbon is about _____ safety pins long.

The ribbon is about _____ clothes pins long.

Circle the correct answer.

The safety pin is longer/shorter than the clothes peg.

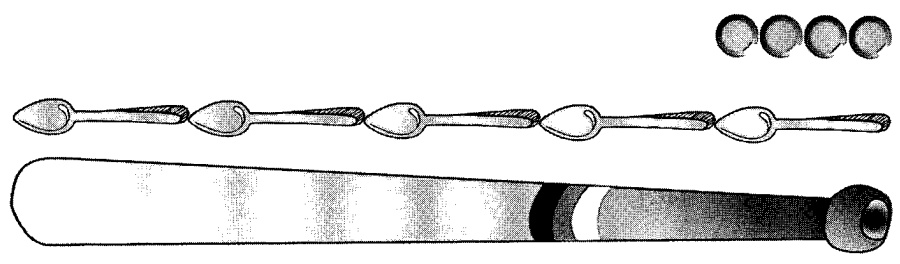
Table A is about _____ pencils long.
 Table B is about _____ pencils long.



9. Look at the picture. Then fill in the blanks.

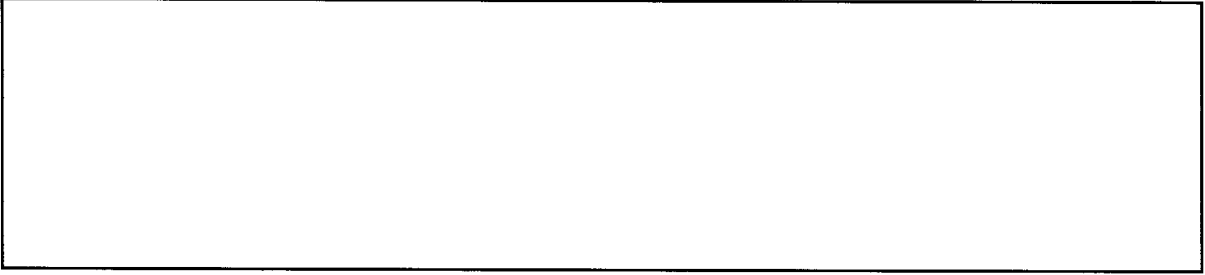
Exercise three

A teaspoon is about _____ counters long.
 The baseball bat is about _____ teaspoons long.
 The baseball bat is about _____ counters long.



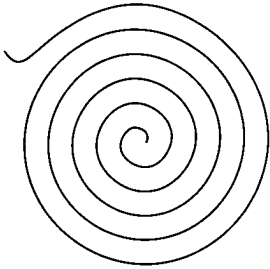
longest.

Ask your friends to guess which string, A, B or C, is the



C.

Paste the shapes in these boxes and label them A, B and



like the one on the right.

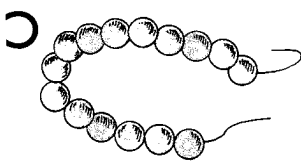
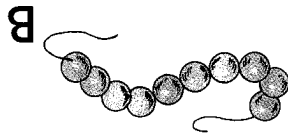
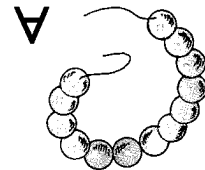
Lay them out to make different shapes,

Cut three pieces of string of different lengths.

Activity



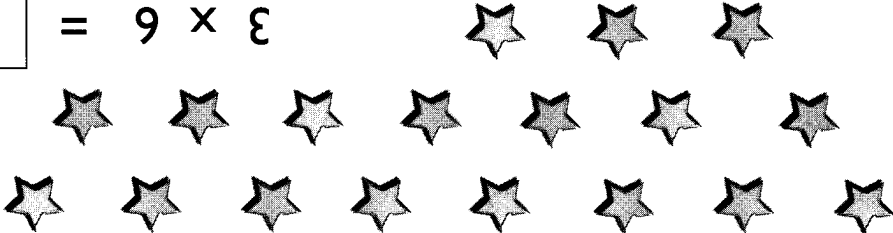
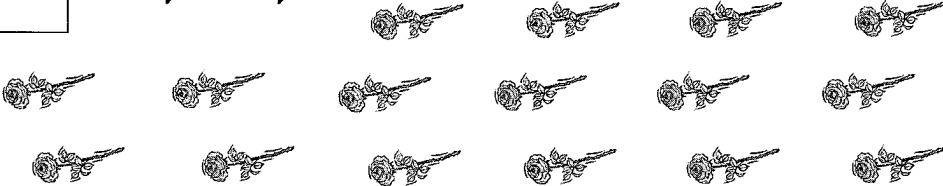
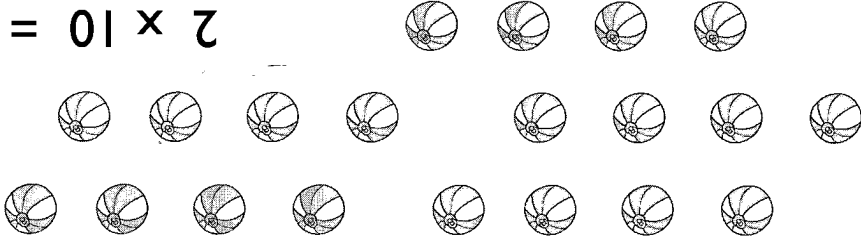
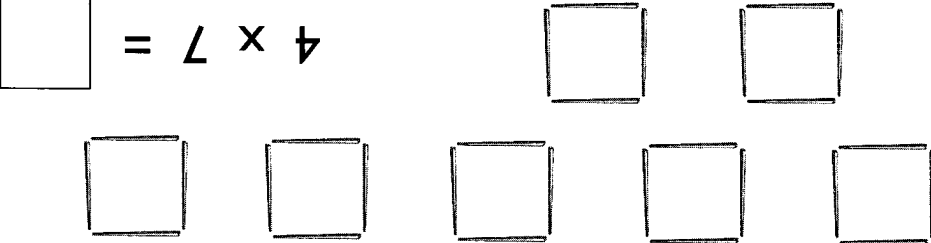
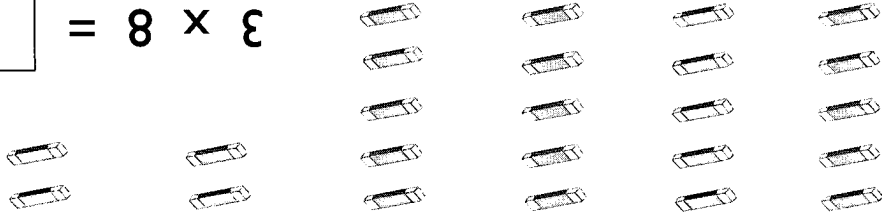
shortest _____ , _____ , _____ longest



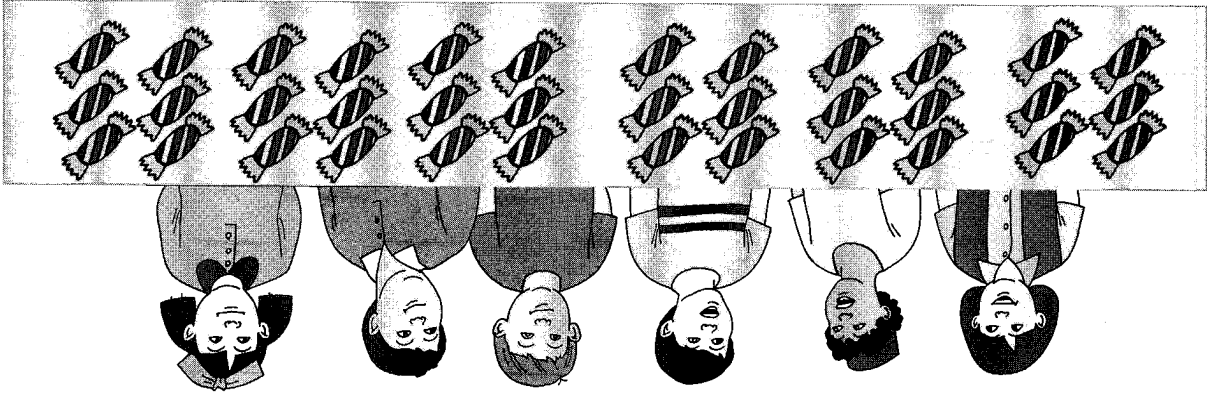
longest.

10. Arrange these strings from the shortest to the

2. Complete the multiplication sentences.

| | | | | |
|--|--|--|--|--|
| <p><input type="text"/> = 3×6</p>  | <p><input type="text"/> = 4×4</p>  | <p><input type="text"/> = 2×10</p>  | <p><input type="text"/> = 4×7</p>  | <p><input type="text"/> = 3×8</p>  |
|--|--|--|--|--|

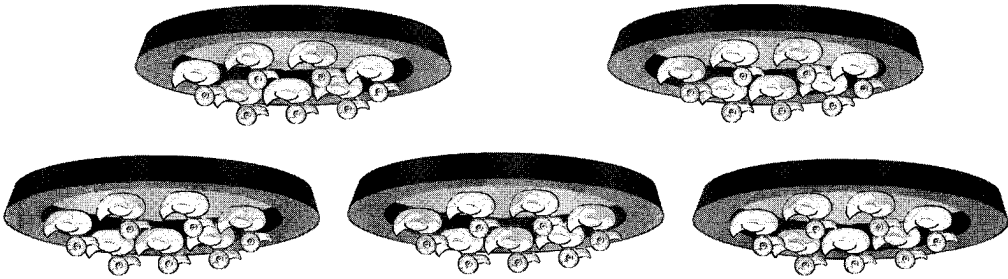
_____ sweets are shared among _____ children.
 Each child gets _____ sweets.



(b)

_____ ducks are grouped into _____ tubs.
 There are _____ ducks in each tub.

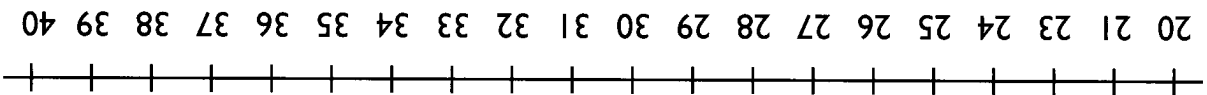
$$\square = \square \times \square$$



(a)

3. Make a multiplication sentence and a division story for each picture.

4. Fill in the blanks with the help of the number line.



(a) The number just before 30 is _____.

(b) The number just before twenty-one is _____.

(c) 21 is just after _____.

(d) Twenty-three is just before _____.

(e) The number between twenty-nine and thirty-one is _____.

_____ is _____.

(f) The number just after twenty-six is _____.

(g) The number between thirty-nine and thirty-seven is _____.

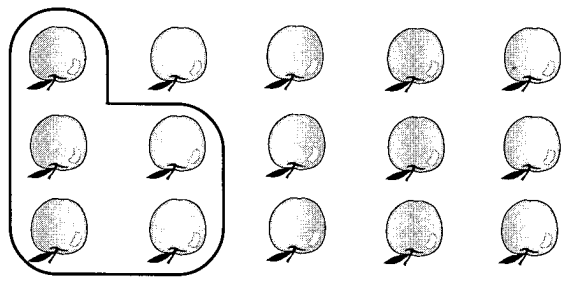
_____ is _____.

(h) The number just before 37 is _____.

(i) 40 is just after _____.

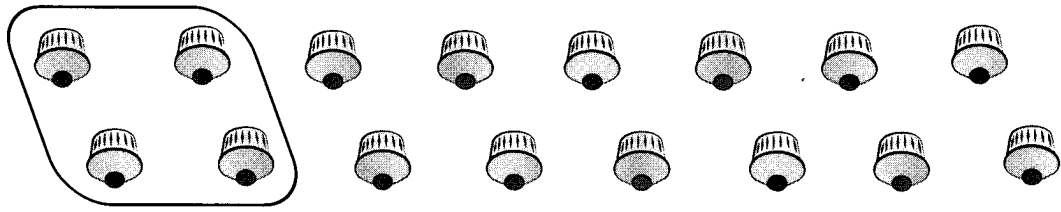
(j) 20 is just before _____.

5. Ring the items in groups. Then fill in the blanks.



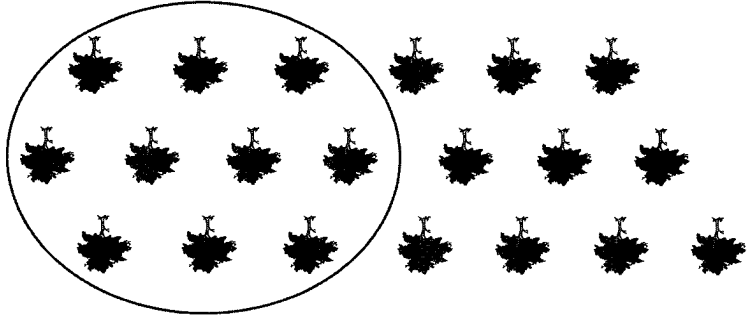
(a)

There are 5 apples in each group.
 There are _____ groups of apples.



(b)

There are 4 muffins in each group.
 There are _____ groups of muffins.



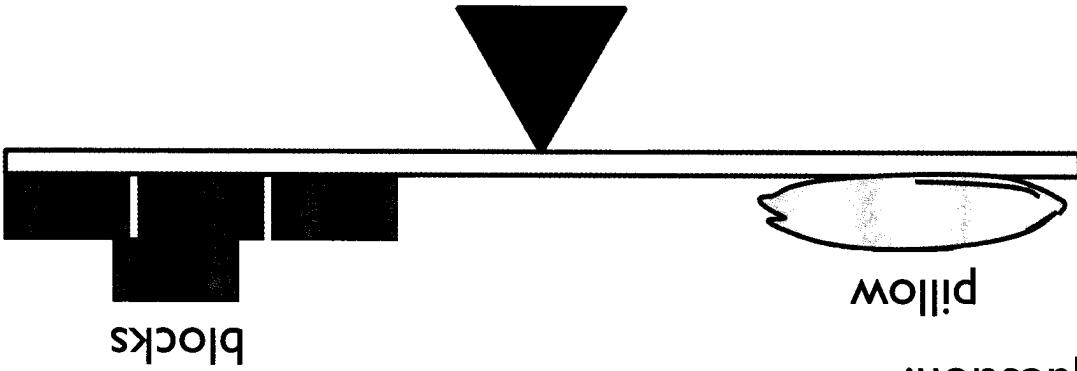
(c)

There are 10 trees in each group.
 There are _____ groups of trees.

2 such pillows are as heavy as _____ blocks.

$$\square = \square + \square$$

How heavy are 2 such pillows?



question.

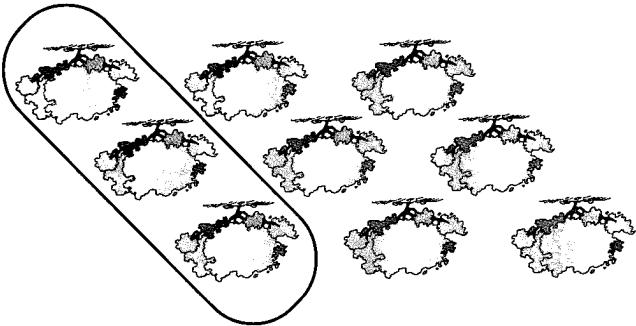
7. Look at the picture. Then answer the following

- (a) 13, 14, 15, _____, _____, 19
- (b) _____, 34, _____, _____, 31, 30, 29

6. Complete these number patterns.

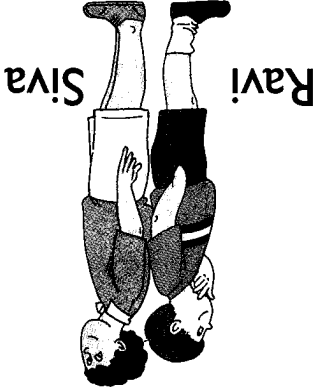
Exercise two

(d) There are 3 bushes in each group. There are _____ groups of bushes.



Down

d. Look at the picture.
 Ravi is shorter than Siva.
 Is this true? Yes/No



e. Susy, Sammy and Fatimah have 3 mice each. The three children have _____ mice altogether.

f. Which of these words can be used to describe height? small/high/wide/heavy

g. Three less than six is _____.



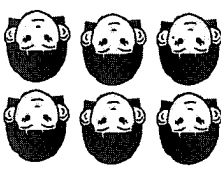
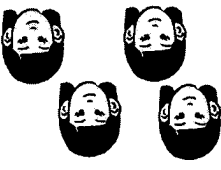
The schools sent _____ girls altogether.

$$\square = \square \bigcirc \square \bigcirc \square$$

(c) If another school sent the same number of girls as Brighthill School, how many girls did the three schools send altogether?

- (b) How many runners are there from Sunvale School?

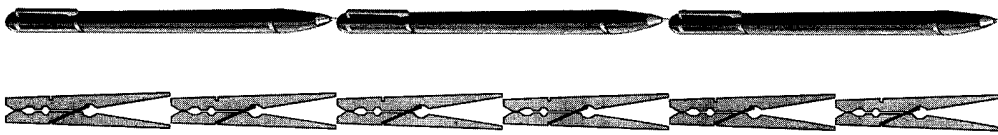
- (a) Altogether, how many boys are in the race?

| | | |
|-------|--|---|
| | Brighthill School | Sunvale School |
| Boys |  |  |
| Girls |  |  |

9. Look at the picture graph of the number of runners taking part in a race. Then answer the questions.

10. Fill in the blanks.

(a)



1 pen is _____ pegs long.

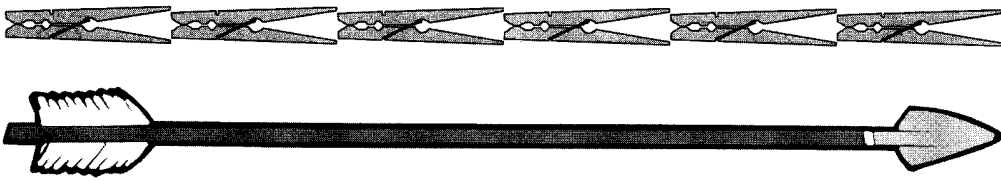
3 pens are _____ pegs long.

How many pegs long are 4 pens?

$$\square = \square \bigcirc \square$$

4 pens are _____ pegs long.

(b)

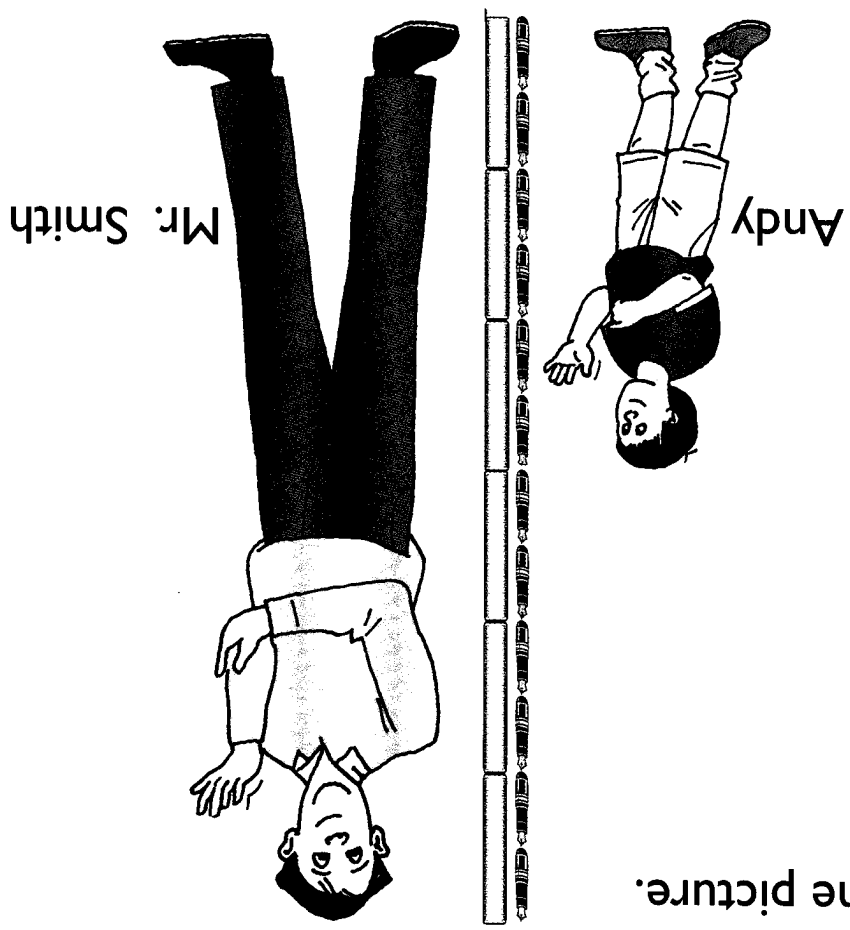


How many pegs long are 2 arrows?

$$\square = \square \bigcirc \square$$

2 arrows are _____ pegs long.

- (a) Andy is about _____ rulers tall.
- (b) Mr. Smith is about _____ pens tall.
- (c) _____ is about 6 pens tall.
- (d) _____ is about 6 rulers tall.
- (e) _____ is taller than _____.



11. Look at the picture.

12. Rewrite these addition sentences as multiplication sentences.

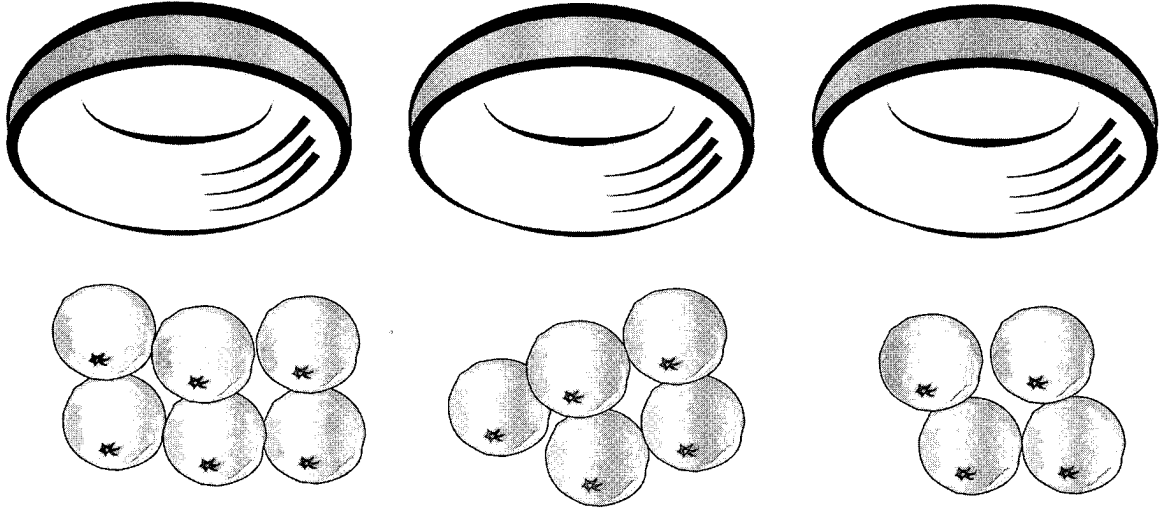
(a) $3 + 3 + 3 =$ \times

(b) $5 + 5 + 5 =$ \times

(c) $1 + 1 + 1 + 1 + 1 + 1 + 1 =$ \times

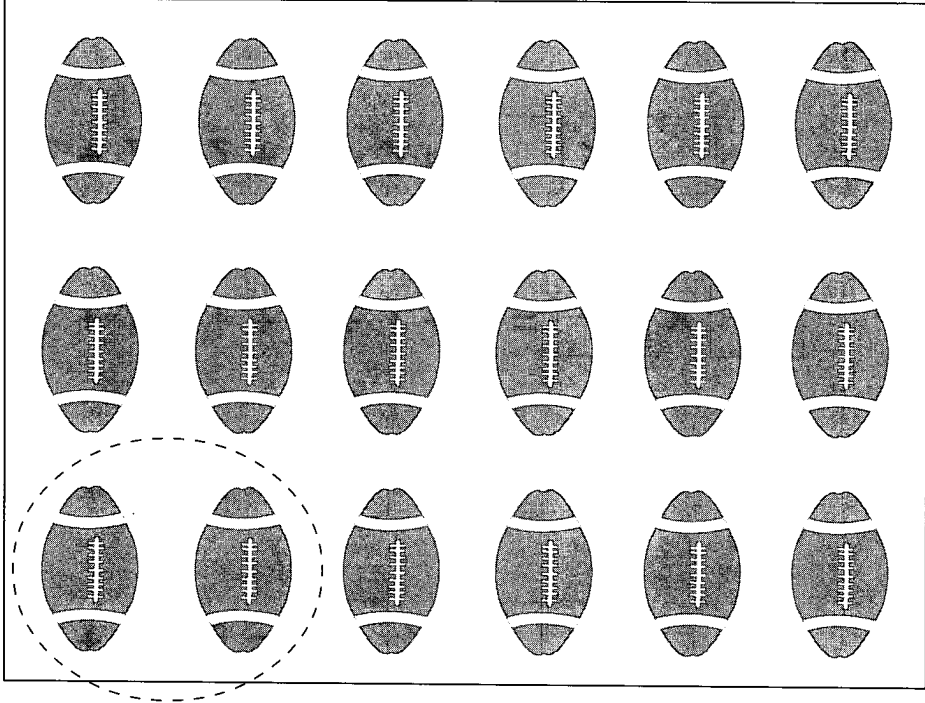
(d) $2 + 2 + 2 + 2 + 2 =$ \times

13. Put the same number of oranges in each bowl. Then fill in the blank.



Each bowl has _____ oranges.

18 balls are given to some boys.
Each boy gets 2 balls.
Altogether, there are _____ boys.



14. Look at the picture and complete the division story: