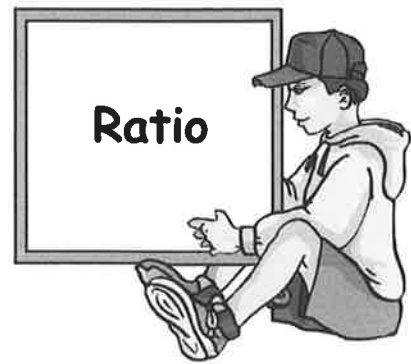


# CHAPTER 11



## Exercise 1

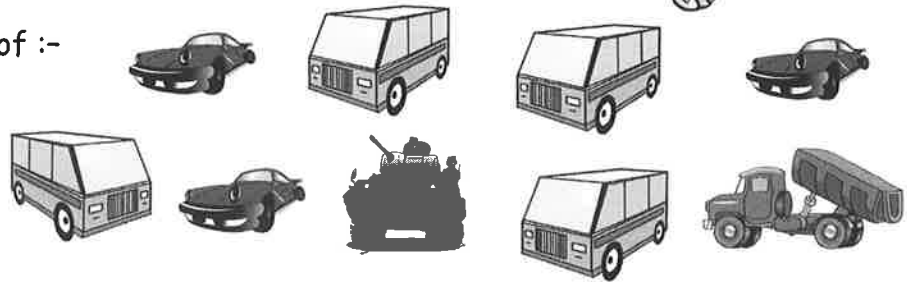
### Understanding Ratio

1. Write down the ratio of :-

a cars : buses

b buses : cars

c buses : vehicles.



2. Write down the ratio of :-

a golf : tennis balls

b tennis : golf balls.



3. Using the word **ALGORITHMIC**, write down the ratio of :-

a vowels : consonants

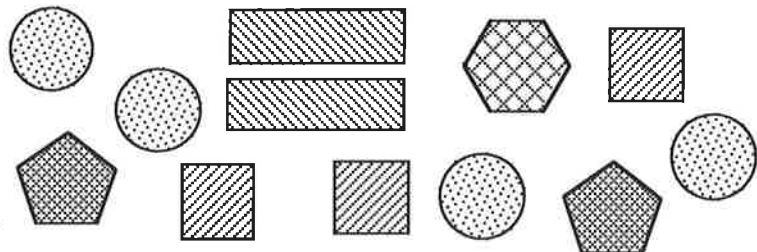
b letters : vowels.

4. Write down the ratio of :-

a circles : squares

b rectangles : hexagons

c pentagons to quadrilaterals.



## Exercise 2

### Simplifying Ratio



1. Write down each ratio and simplify fully where possible :-

a B : P

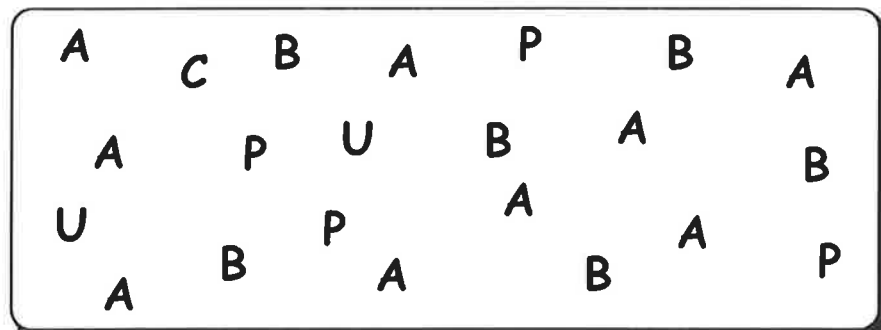
b P : B

c U : B

d A : P

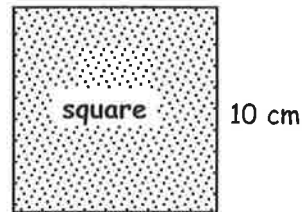
e B : A

f P : vowels.



2. Copy each of the following ratios and simplify fully where possible :-
- |   |          |   |           |   |           |   |                    |
|---|----------|---|-----------|---|-----------|---|--------------------|
| a | 8 : 12   | b | 40 : 70   | c | 33 : 36   | d | 24 : 60            |
| e | 6 : 39   | f | 36 : 45   | g | 110 : 330 | h | 17 : 340           |
| i | 48 : 9   | j | 18 : 3600 | k | 17 : 51   | l | 73 : 75            |
| m | 121 : 11 | n | 173 : 173 | o | 39 : 21   | p | ten : one million. |

3. A square has side length 10 centimetres.  
Write down the ratio, in simplest form,  
of the numerical values of :-



- a the perimeter : the area  
b a side length : the perimeter.

### Exercise 3

### Ratio Calculations



1. In a class, the ratio of girls to boys is 1 : 3.  
If there are 18 boys in the class how many :-  
a girls are in the class      b pupils are in the class ?
2. The ratio of new cars to used cars for sale in a garage is 3 : 2.  
There are 21 new cars for sale. How many :-  
a used cars are for sale      b cars are for sale ?

3. Different shades of pink paint are made by using differing ratios.  
Which type of pink do you get by mixing :-  
a 9 litres of red and 6 litres of white  
b 14 litres of red and 28 litres of white  
c 6 litres of white and 24 litres of red ?

|            | red | white |
|------------|-----|-------|
| Deep Pink  | 4   | 1     |
| Heavy Pink | 3   | 2     |
| Baby Pink  | 1   | 1     |
| Light Pink | 1   | 2     |

4. A school trip can only happen if the ratio of teachers to pupils is at least 2 : 15.  
There are 60 pupils going on the trip.  
There are nine teachers.  
Can the trip go ahead ? Explain.



## Revisit - Review - Revise Exercise 11



1. Write down the ratio of :-

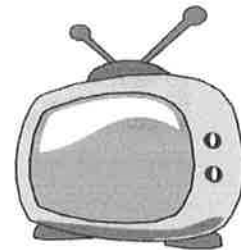
- cats : dogs
- dogs : cats
- cats : animals.



2. In an electrical shop there are 17 TV's, 12 radios, 11 fridges and 7 freezers.

Write down the ratio of :-

- TV's : freezers
- freezers : radios
- radios : electrical items.



3. Write down each ratio and simplify fully where possible :-

- |   |          |   |          |   |           |   |           |
|---|----------|---|----------|---|-----------|---|-----------|
| a | 15 : 20  | b | 40 : 50  | c | 33 : 99   | d | 18 : 28   |
| e | 13 : 43  | f | 42 : 35  | g | 480 : 120 | h | 175 : 50  |
| i | 64 : 164 | j | 2.5 : 10 | k | 1.5 : 18  | l | 165 : 55. |

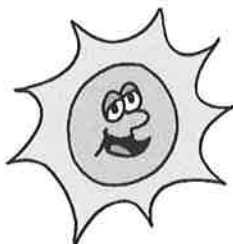
4. The ratio of action DVD's to drama DVD's in a market stall is 5 : 2.

How many :-

- action DVD's, if there are 24 drama DVD's
- drama DVD's, if there are 65 action DVD's
- DVD's are there, if there are 32 drama DVD's ?



5.



Last June, the ratio of sunny to dull days was 2 : 3.

A newspaper stated there were 21 dull days.

Why do you think the newspaper was wrong ?

6. Simplify each ratio fully :-

- |   |                   |   |                    |   |                    |   |                     |
|---|-------------------|---|--------------------|---|--------------------|---|---------------------|
| a | $\frac{1}{2} : 5$ | b | $7 : 1\frac{1}{2}$ | c | $1\frac{2}{3} : 2$ | d | $4\frac{5}{7} : 1.$ |
|---|-------------------|---|--------------------|---|--------------------|---|---------------------|