# CHAPTER FOURTEEN

## Ratio, Proportion and Sharing

Q1. The ages of two students are such that John is 6 years old and Peter is 18 years old. Find the ratio of John's age to that of Peter.

Soln.

John : Peter

6 : 18

1 : 3

*The ratio of their ages is* 1: 3.

N/B: The ratio 6:18 was reduced to its lowest term, by dividing the 6 and 18 by 6 to get 1:3.

Q2. Kofi has 4 pens and Esi has 6 pens. Find the ratio of the number of pens had by Kofi to that had by Esi.

Soln

Kofi : Esi

4 : 6

2 : 3

*The ratio of the number of pens had by*

*Kofi to that had by Esi is* 2: 3.

N/B: The ratio 4: 6 was reduced to its lowest term by dividing by 2 to get 2:3.

Q3. Esi is 2m tall and Adjoa is 8m tall. Find the ratio of their heights.

Soln.

Esi : Adjoa

2 : 8

1 : 4

*The ratio of their heights is* $1:4$

Q4. Kwaku has 7 oranges and Atta has 3 oranges. Find the ratio of the number of oranges had by Kwaku to that had by Atta .

Soln.

Kwaku : Atta

7 : 3

The required ratio is 7:3 respectively.

N/B: The ratio 7:3 cannot be reduced to a lower term.

Q5. A stick is 5cm long and a second one is 9cm long. Find the ratio of the length of the first stick to that of the second one.

Soln.

First stick : Second stick

5 : 9

*The ratio of the lenght of first stick to that of the second one is* $5:9$ *respectively*.

Q6. The ratio of the ages of John to Kate is 2:3 respectively. If Kate is 18 years old, calculate

a. John's age.
b. their total age.

Soln.

| John | : | Kate |
|---|---|---|
| 2 | : | 3 |
| ↓ | : | ↓ |
| ? | : | 18 years |

If 3 = 18 yrs

∴ 2 =?

N/B: Since a ratio of 3 gave us 18yrs, then a ratio of 2 will give us a lesser value. And if less then more divide. Therefore use the 3 to divide.

a. i.e if 3 = 18yrs then 2 = $^{2}/_{3}$ x 18 = 12yrs.
b. Their total age = 12+18 = 30yrs.