

CHAPTER THREE

RATIO, PROPORTION AND SHARING

(Q1) 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 the 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 : Adjoas

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 or the lowest 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:

Length of first stick : Length of second stick

5 : 9

=> the ratio of the length of the first stick to that of the second one is 5 : 9 respectively.

(Q6) The ratio of the ages of John and 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
↓		↓
?	:	18yrs

If $3 = 18 \text{ yrs}$

then $2 = ?$

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

(a) If $3 = 18\text{yrs}$

$$\begin{aligned}\text{then } 2 &= \frac{2}{3} \times 18 \\ &= 12 \text{ yrs.}\end{aligned}$$

=> John`s age = 12yrs.

(b) Their total age = Kate`s age + that of John`s = $18 + 12 = 30\text{yrs}$.