UNIT 6

Ratio

Revision Notes

1. (a) A **ratio** compares quantities of the same unit.

    (b) ':' is the **symbol** for ratio and is read as 'is to'.

    (c) Ratios have **no units**.

2. Ratios can be converted to fractions.
    E.g. $2 : 3$ is equivalent to $\frac{2}{3}$.

Revision Exercise 6

1. The ratio of John's stamps to Siti's stamps is $2 : 3$. Express John's stamps as a fraction of Siti's stamps.

2. The ratio of the number of boys to the number of girls in Sec 1A is 4 : 3. Express the number of girls as a fraction of the number of boys.

3. Tim is $\frac{1}{5}$ of his father's age. What is the ratio of Tim's age to his father's age?

4. Sally's mass is $\frac{4}{5}$ of Fatimah's mass. What is the ratio of Fatimah's mass to Sally's mass?

5. The sides of a triangle are in the ratio 2 : 4 : 7. What fraction of the perimeter is the length of the longest side?

6. Ashley has $\frac{1}{2}$ as much money as Benny and Benny has $\frac{1}{3}$ as much money as Richie. What is the ratio of Ashley's money to Benny's money to Richie's money?

7. Ali has 24 sweets and Ginny has 16 sweets. What is the ratio of Ali's sweets to Ginny's sweets?

8. String A is 13 cm long and String B is 39 cm long. What is the ratio of the length of String A to that of String B?

9. Write each ratio in its simplest form.

   (a) $30 : 12$

   (b) $16 : 24 : 8$

   (c) $4 : 100$

   (d) $12 : 18 : 42$

   (e) $400 : 2000$

   (f) $500 : 800 : 1000$

10. Mr Singh left an inheritance of $100 000 to his wife and daughter in the ratio $12 : 3$. How much did each of them get?

11. Lisa has 140 beads of which 55 are black and the rest are white. Find the ratio of the number of white beads to the number of black beads she has.

12. Sally has $\frac{3}{5}$ as many stickers as her brother Sam.

    (a) Find the ratio of Sam's stickers to Sally's stickers.

    (b) If Sally has 18 stickers, how many stickers do the two siblings have?

13. Taufiq has 20 DVDs. The ratio of the number May's DVDs to that of Taufiq's DVDs is 6 : 5. How many DVDs does May have?

14. To bake a cake, Mrs Tan mixed $1\frac{1}{2}$ cups of flour to $\frac{1}{2}$ cup of butter. What is the ratio of the amount of butter to the amount of flour?

15. Express each of the following ratios in its simplest form.

    (a) $\frac{3}{4} : \frac{1}{2}$

    (b) $\frac{2}{3} : 2$

    (c) $\frac{5}{7} : 1\frac{1}{7}$

16. Express each of the following ratios in its simplest form.

    (a) $0.2 : 0.25$

    (b) $1.2 : 0.5$

    (c) $0.45 : 1.4$

17. Express each of the following ratios in its simplest form.

    (a) $\frac{1}{5} : 0.2$

    (b) $0.8 : 2\frac{1}{2}$

    (c) $1 : 1.5 : 3\frac{1}{3}$

18. Express each of the following ratios in its simplest form.

    (a) 1200 g : 2 kg

    (b) 520 ml : 1 l

    (c) 15 cm : 3 m

    (d) 20¢ : $1.20

    (e) 250 m : 1.2 km

    (f) 20 min : 2 h

19. Given that $a : b = 4 : 5$ and $a : c = 5 : 3$, find $a : b : c$.

20. Given that $a : b = 3 : 7$ and $b : c = 4 : 1$, find $a : b : c$.