

SHARP

Mathematical Literacy – Grade 10

Worksheet 2 Memorandum – Ratio

1. a) 70: 10
= 7: 1
- b) 45: 50
= 9: 10
- c) 27: 9
= 3: 1
- d) 49: 56
= 7: 8
- e) 27: 12
= 9: 4
- f) 10: 4
= 5: 2
- g) 25: 45
= 5: 9
- h) 39: 13
= 3: 1
- i) 11: 121
= 1: 11
- j) 64: 16
= 4: 1

A nice way to check their answer is to type the ratio in as a fraction. For example with b) press 45 $\frac{a}{b}$ $\frac{=}{\text{ENTER}}$ 50 and the correct simplified ratio will also be shown as a fraction. *Note: When a whole number is shown in the answer it means that the denominator is 1 as in h).*

2. 812.50: 2 437.50: 3 250
= 1: 3: 4
- \therefore For John = $\frac{1}{8} \times 5000$
= R625
- \therefore For Suzy = $\frac{3}{8} \times 5000$
= R1 875
- \therefore For Rosy = $\frac{4}{8} \times 5000$
= R2 500

3. a) 4 cups of flour and 6 eggs
b) 6 cups of flour and 9 eggs
c) No, because you cannot have half of an egg.
d) 10 cups of flour $\div 2 = 5$ and 16 eggs $\div 3 = 5$ remainder 1
 \therefore You can make 5 cakes.

4. a) 15: 20
= 3: 4

$$\begin{aligned} \text{b) Boys} &= \frac{3}{7} \times 105 & \text{Girls} &= \frac{4}{7} \times 105 \\ &= 45 \text{ prizes} & &= 60 \text{ prizes} \end{aligned}$$

$$\begin{aligned} \text{c) } &15 + 10 = 25 \\ &\therefore 25: 20 \\ &= 5: 4 \end{aligned}$$

$$\begin{aligned} 5. \text{ a) } &20 \times \frac{3}{5} = 12 \text{ bags of cat food} \\ \text{b) } &3:5 \end{aligned}$$

$$\begin{aligned} \therefore \text{cats} &= \frac{3}{8} \times 896 & \text{dogs} &= \frac{5}{8} \times 896 \\ &= 336 \text{ cats} & &= 560 \text{ dogs} \end{aligned}$$

$$\text{c) i) } 18 \times \frac{5}{3} = 30 \text{ dogs} \quad \text{ii) } 30 + 18 = 48 \text{ cats and dogs}$$

$$\text{d) } 2 \text{ cats: } 4 \text{ dogs}$$

$$\text{i) } 1: 2 \quad \text{ii) } 13 \times \frac{2}{1} = 26 \text{ dogs}$$

$$\begin{aligned} 6. \text{ a) } &7: 3 & \text{b) } &7: 3 \\ &14: 6 & &49: 21 \\ &\therefore 6 \text{ leaves} & &\therefore 49 \text{ petals} \end{aligned}$$

$$\begin{aligned} \text{c) } &\text{total petals} = 112 \times 8 = 896 \\ &\therefore \text{leaves} = 896 \times \frac{3}{7} = 384 \end{aligned}$$

$$\begin{aligned} 7. \text{ a) } &R50: R60 & \text{b) } &R50 \times 5 + R60 \times 5 \\ &= R5: R6 & &= R550 \end{aligned}$$

$$\begin{aligned} \text{c) } &5:6 & \therefore \text{John} &= \frac{5}{11} \times R154 = R70 \\ &\therefore \text{Nonhlanhla} &= \frac{6}{11} \times R154 = R84 \end{aligned}$$

$$\begin{aligned} \text{d) i) } &R55: R60 & \text{ii) } &\text{John} = \frac{11}{23} \times R161 = R77 \\ &= R11: R12 & &\text{Nonhlanhla} = \frac{12}{23} \times R161 = R84 \end{aligned}$$

ii) Nonhlanhla earns the same amount both times while John earns R7 more the second time. This is because John put more money in the second time and therefore earns all the extra profit.