

Form 1

Chapter 4 : Ratio, Rates and Proportions

TEACHER'S NAME:

NAME:

CLASS:

4.1 RATIOS

NOTES

- A ratio is a comparison between quantities that have the same unit.

A DRAG THE APPROPRIATE ANSWER AND PLACE IT IN THE ANSWER SPACE.

Find the ratio for the situation below.

5:9:10

2:3:1

3:8:17

5:7:12

1:3:15

a) 500 g to 900 g to 1000 g. _____

b) 3 apples to 8 apples to 17 apples. _____

c) $\frac{1}{3}$ hours to $\frac{1}{2}$ hours to $\frac{1}{6}$ hours. _____

d) 5 Science books to 7 Mathematics books to 12 Geography books. _____

e) 1 piece of type A shirt to 3 pieces of type B shirt to 15 pieces of type C shirt. _____

B Determine whether the following ratios are proportional. Choose the correct answer.

a	20 : 28 and 45 : 63	YES	NO
b	2.6 kg : 3.9 kg and 11.1 kg : 7.4 kg	YES	NO
c	12 : 16 and 51 : 68	YES	NO

C Mark / at the equivalent ratio and X if not.

a	15 : 30 dan 30 : 54	
b	45 : 35 dan 18 : 14	
c	9 : 15 dan 18 : 28	

D Match the following ratios in their lowest form.

55 cm : 1 m

85 sen : RM 2.15

240 ml : 0.5 l

17 : 43

12 : 50

11 : 20

12 : 25

E Express the following in its simplest form. (Write without distance. Example 2: 3)

$15:25$ ↓ <input type="text"/>	$7:1.4:3.5$ ↓ <input type="text"/>	$\frac{1}{4}:\frac{1}{2}:\frac{1}{8}$ ↓ <input type="text"/>
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F Fill in the blanks with the appropriate numbers using the concept of equivalent ratios

a) $2:3:5 = \square : 6 : 10$	b) $3:6:\square = \square : 18 : 30$
c) $\square : 4 : 18 = 5 : \square$	d) $7 : \square : 11 = 14 : 18 : \square$

G Match the correct equivalent ratio pairs.

3:8	18:21
6:7	10:18
5:9	9:24
3:7	15:33
5:11	15:35

4.2 RATES

NOTES

- Rate is a comparison between two or three quantities that have different units.
- Conversion of units.

$1\text{cm} = 10\text{ mm}$, $1\text{m} = 100\text{ cm}$, $1\text{ km} = 1000\text{ m}$, $1\text{kg} = 1000\text{ g}$

H Convert the units specified below. (Match answers)

45 km/j

kepada m/s

60 km/j

kepada m/s

50 ml/s

kepada l/j

70 ml/s

kepada l/j

100 kg/ m^3

kepada g/ cm^3

RM 2.70 /min

kepada sen/s

RM 3.80 /min

kepada sen/s

0.1 g/ cm^3

4.5 sen/s

6.33 sen/s

125 m/s

16.67 m/s

252 l/j

180 l/j

4.3 PROPORTIONS

NOTES

- Proportion is a relationship when two ratios or two rates are equal.

I Solve. (Choose 1 answer)

a) In a class, the ratio of the number of female students to the number of male students is 5:3. If there are 30 female students, what is the number of male students in the class?

14

16

18

20

b) A sum of money is divided between Ali, Abu and Muthu according to the ratio 5: 7: 8. What is the percentage of money received by Abu?

25 %

30 %

35 %

40 %

c) 1.5 kg of flour is used to make 5 cakes. Calculate the number of cakes that can be made with 900 g of flour.

2

3

4

5

4.4 RATIOS, RATES AND PROPORTIONS

J Solve

a) The ratio of the mass of a watermelon to the mass of a papaya to the mass of a pumpkin is 6: 3: 4. If the mass of a pumpkin is 2.4 kg, calculate the total mass of a watermelon and a papaya.

100

kg (1 decimal place)

b) Every day, Mr. Helmi spends 2.3 hours in his garden and 3.75 hours meeting his friends. Calculate the number of hours Mr. Helmi spent in the garden and meeting his friends for 12 days.

hours (1 decimal place)

4.5 RELATIONSHIP BETWEEN RATIOS, RATES AND PROPORTIONS, WITH PERCENTAGES, FRACTIONS AND DECIMALS

K Solve

a) The ratio of the length of rope A to rope B is $4x : 5x+1$. The total length of the two ropes is 91 cm.
i) Find the value of x .

6

8

10

12

ii) Find the percentage of the length of rope B to rope A.

83 %

95 %

101 %

127.5 %

b) i) Given $3 : 5 = 21 : y$.

Find the value of y

30

35

40

45

ii) Given $r : s = 7 : 13$ and $s - r = 72$.

Find the value of $r+s$.

110

189

156

240

c) The age ratio of Sazlin and his sister is 3: 5. If their total age is 48 years, find the age of Sazlin's sister.

15

27

30

44