

Student No.:	Date: / /	Score: /55
Student Name:		

Revision of Rate and Ratio (I)

Exercises

- Express the following rates in the units given in the brackets.
 - 5 kg of meat costs \$60. [\$/kg]
 - A photocopier can produce 90 copies in 3 minutes. [copies/minute]
 - A car travels 80 km and consumes 5 L of petrol. [km/L]
 - 100 Euros (EUR) can be exchanged for 1050 Hong Kong Dollars (HKD). [HKD/EUR]
 - Sindy takes 4 minutes to swim 360 m. [m/s]
 - A bottle of soft drink of 1 L is sold for \$10. [\$/mL]
 - Henry cycles 25500 m in 90 minutes. [m/h]
 - A carpet of 2000 cm^2 costs \$400. [\$/ m^2]
- Simplify the following ratios.

(a) 26:39	(b) 381:127	(c) 3.8:9.5
(d) $\frac{2}{3}:\frac{7}{9}$	(e) $\frac{4}{5}:0.6$	(f) $\frac{27}{7}:0.25$
(g) 650 g : 2 kg	(h) 1300 m : 5 km	(i) 6 days : 3 weeks
(j) $10000 \text{ cm}^2 : 3 \text{ m}^2$	(k) $5 \text{ m}^3 : 500000 \text{ cm}^3$	(l) $10000 \text{ cm}^3 : 1 \text{ m}^3$

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3. Complete the following table.

Distance	Time	Speed
18 km	3 hours	(a) km/h
500 m	30 minutes	(b) km/h
1.2 km	2 hours	(c) m/min
43.2 km	6 hours	(d) m/s
(e) km	4 hours	24 km/h
(f) m	50 seconds	3 m/s
(g) km	50 minutes	15 km/h
(h) km	5 hours	300 m/min
177 m	(i) seconds	59 m/s
5 km	(j) minutes	12.5 km/h
200 m	(k) seconds	4 km/min
14.4 km	(l) minutes	0.5 m/s

4. Find $x : y$ in each of the following.

(a) $3x = 5y$

(b) $4x - 3y = 0$

(c) $\frac{1}{3}x = \frac{3}{4}y$

(d) $\frac{1}{x} : \frac{1}{y} = 2 : 1$

5. Find the unknowns in the following ratios.

(a) $x : 5 = 7 : 10$

(b) $24 : (x + 2) = 3 : 5$

(c) $3 : (x + 4) = 9 : (5x - 2)$

(d) $(2x + 3) : (3x - 1) = 13 : 14$

6. The height of Ben and Chris are in the ratio of $31 : 33$. If Ben's height is 155 cm, find the height of Chris.

7. Find $a:b:c$ in each of the following.

(a) $a:b=3:5, b:c=5:4$

(b) $a:b=2:5, b:c=3:4$

(c) $a:b=5:3, a:c=4:1$

(d) $a:b=3:2, c:a=3:5$

8. Ada, Billy and Chris share a pack of candies in the ratio of $7:4:2$. Chris gets 10 candies less than Ada.

(a) Find the number of candies Billy gets.

(b) Find the total number of candies.

9. 24 workers produced 6720 toys in 14 days.

(a) Find the production rate of each worker in toys/worker.

(b) Find the production rate per day in toys/day.

(c) If all the workers produce toys at the same rate, how many toys can 16 workers produce in 10 days?

(d) The manager claims that 13000 toys can be produced in 20 days by 32 workers. Do you agree? Explain briefly.

10. Henry is 30 years old and Johnny is 6 years younger than him. How many years later will the ratio of the ages of Henry to Johnny become $7:6$?

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M.C.

1. Which of the following statement is/are true?

- I. Rate has no units.
- II. Ratio has no units.
- III. Scale factor has no units.

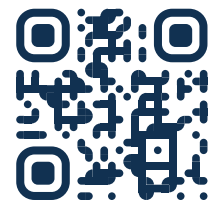
- A. I only
- B. I & II only
- C. I & III only
- D. II & III only

2. If $2x = 3y$, then which of the following must be true?

- A. $x = 2, y = 3$
- B. $x = 3, y = 2$
- C. $x : y = 2 : 3$
- D. $x : y = 3 : 2$

3. The scale of a map is $1 : 60000$. If the distance between places A and B is 3 cm on the map, find the actual distance between places A and B.

- A. 1.8 km
- B. 18 km
- C. 18000 m
- D. 180000 m



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