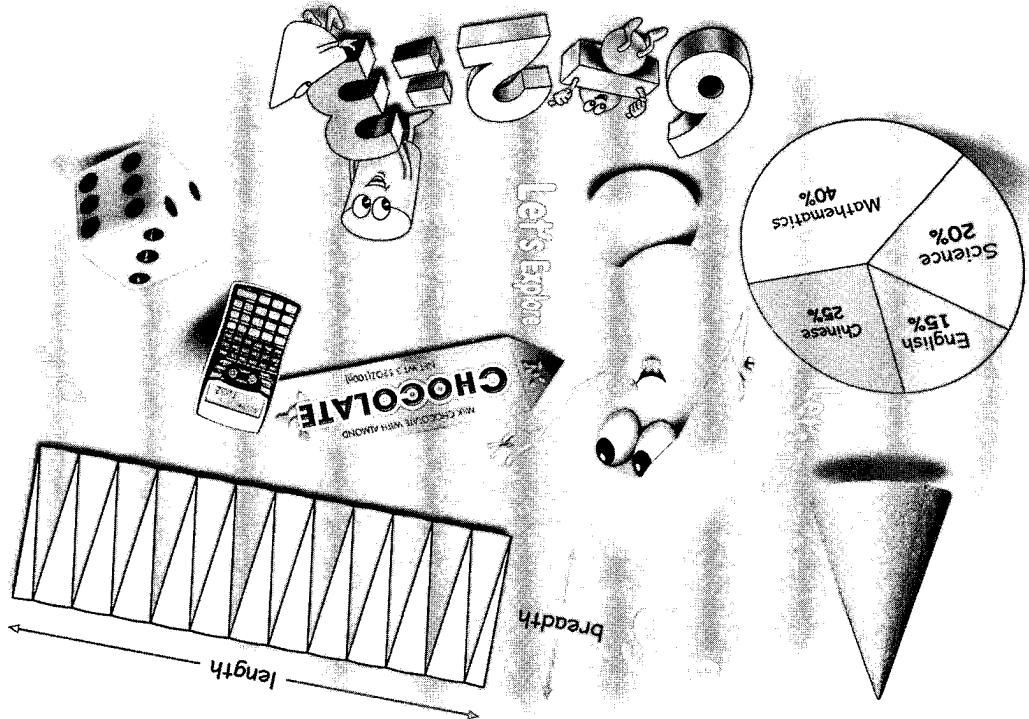


shingler publishers pte ltd

Authors: Teh Pick Ching (BA, MA) • Lu Jitan (Ph.D, MSc, BSc)

Consultants: Dr Foong Pui Yee • Dr Fan Liang Huo



# 6A WORKBOOK 2



New Syllabus

Printed in Singapore by Mainland Press Pte Ltd



Cover design by Dave Cheong


ISBN 978 981 237 381 6

First Published 2009

All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the Publishers.

©SHINGLEE PUBLISHERS PTE LTD

SHINGLEE PUBLISHERS PTE LTD  
120 Hillview Avenue #05-06/07  
Kewalram Hillview Singapore 669594  
Tel: 67601388 Fax: 67623247  
email: [info@shinglee.com.sg](mailto:info@shinglee.com.sg)  
<http://www.shinglee.com.sg>



# CONTENTS

## 4. Fractions

- Worksheet 11: Division of a Whole Number by a Proper Fraction ..... 1
- Worksheet 12: Division of a Proper Fraction by a Proper Fraction ..... 8
- Practice 4 ..... 14

## 5. Percentage

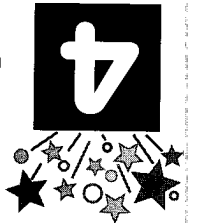
- Worksheet 13: Find the Whole Given a Part and the Percentage ..... 21
- Worksheet 14: Percentage Increase and ..... 25
- Percentage Decrease ..... 25
- Worksheet 15: Word Problems ..... 30
- Practice 5 ..... 34

## 6. Speed

- Worksheet 16: Speed ..... 42
- Worksheet 17: Distance, Time and Speed ..... 46
- Worksheet 18: Average Speed and  
Word Problems ..... 51
- Practice 6 ..... 55

**Revision 2A** ..... 62

**Revision 2B** ..... 76



# Fractions



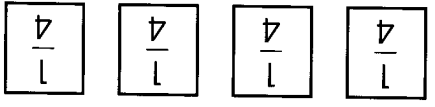
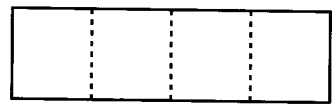
## WORKSHEET 11

### Division of a Whole Number by a Proper Fraction

Date:

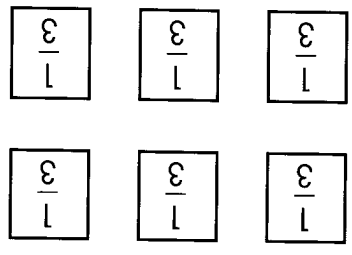
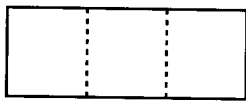
1. Divide the following based on the pictorial representations.

(a)  $1 \div \frac{1}{4}$



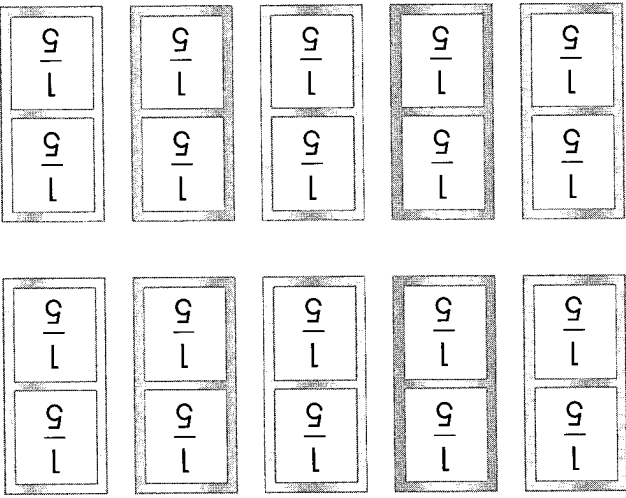
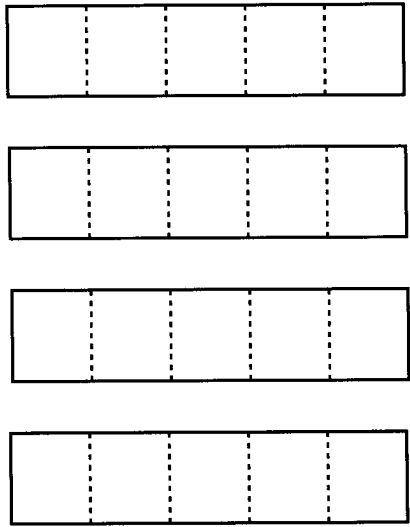
$1 \div \frac{1}{4} = 1 \times 4$   
 =

(b)  $2 \div \frac{1}{3}$



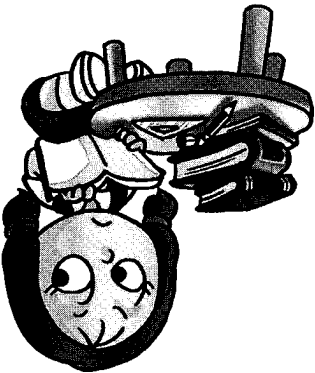
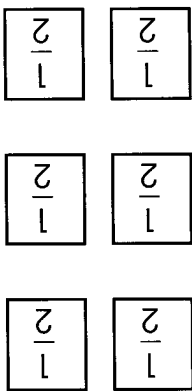
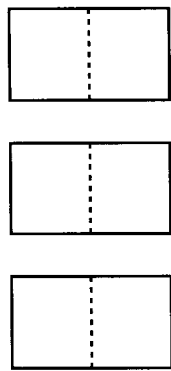
$2 \div \frac{1}{3} = 2 \times 3$   
 =

$$4 \div \frac{2}{5} =$$



(c)  $4 \div \frac{2}{5}$

$$3 \div \frac{1}{2} =$$



(c)  $3 \div \frac{1}{2}$

$$3 \div \frac{5}{4} =$$




$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$
$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$
$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$	$\frac{5}{1}$

(f)

$$3 \div \frac{4}{5} =$$




$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$
$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$
$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$
$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$

$$6 \div \frac{4}{3} =$$

(g)

$$6 \div \frac{4}{3} =$$

2. Tick the correct answer for each division.

(a)  $5 \div \frac{1}{2}$

	10	
	$2\frac{1}{2}$	
	$\frac{5}{2}$	

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

	2	
	1	
	$4\frac{1}{2}$	

(c)  $1 \div \frac{4}{3}$

	$\frac{1}{4}$	
	$1\frac{1}{3}$	
	$\frac{1}{3}$	

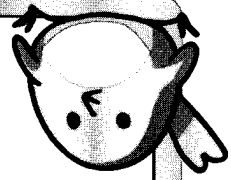
(d)  $12 \div \frac{3}{2}$

	8	
	18	
	$\frac{1}{18}$	

(e)  $7 \div \frac{4}{3}$

	$5\frac{1}{4}$	
	$9\frac{1}{3}$	
	$\frac{28}{3}$	





(e)  $3 \div \frac{5}{3}$

(c)  $5 \div \frac{1}{3}$

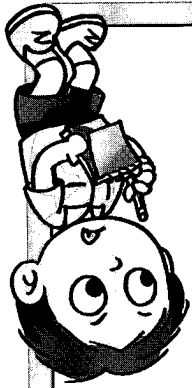
(a)  $1 \div \frac{1}{8}$

(f)  $7 \div \frac{8}{7}$

(d)  $4 \div \frac{1}{6}$

(b)  $1 \div \frac{1}{10}$

3. Divide the following.



$$(1) 7 \div \frac{10}{9}$$

$$(k) 8 \div \frac{11}{6}$$

$$(l) 4 \div \frac{7}{6}$$

$$(i) 6 \div \frac{7}{2}$$

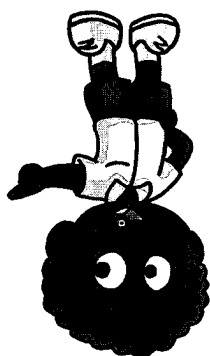
$$(h) 2 \div \frac{4}{3}$$

$$(g) 3 \div \frac{5}{2}$$

4. How many one-fifths are there in 5 wholes?

5. How many two-thirds are there in 2 wholes?

6. How many three-eighths are there in 6 wholes?

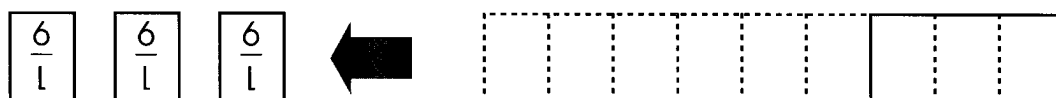


$$\square = \square \times \frac{3}{2} = \frac{3}{1} \div \frac{3}{2}$$



(b)  $\frac{3}{2} \div \frac{3}{1}$

$$\square = \square \times 9 = \frac{9}{1} \div \frac{9}{1}$$



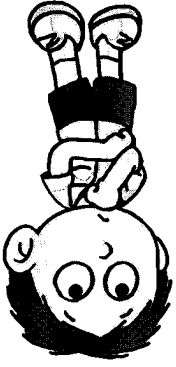
(a)  $\frac{9}{1} \div \frac{9}{1}$

1. Divide the following based on the pictorial representations.

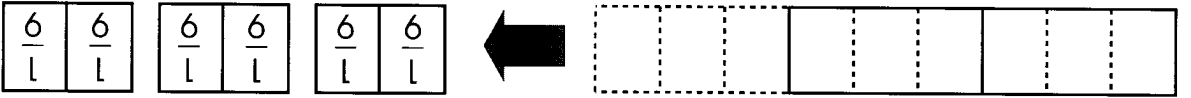
## Division of a Proper Fraction by a Proper Fraction

### WORK SHEET 12

Date:



$$\square = \frac{\square}{\square} \times \square = \frac{3}{2} \div \frac{9}{2}$$

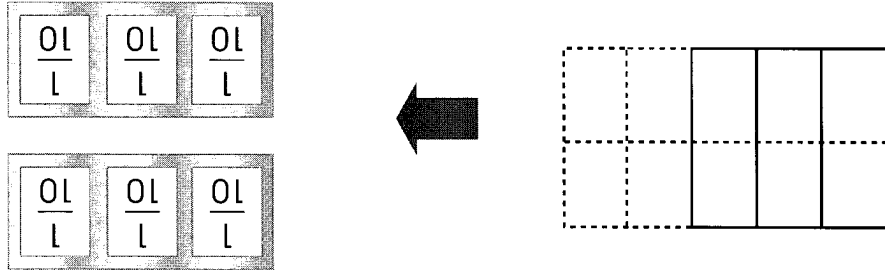


(d)  $\frac{3}{2} \div \frac{9}{2}$

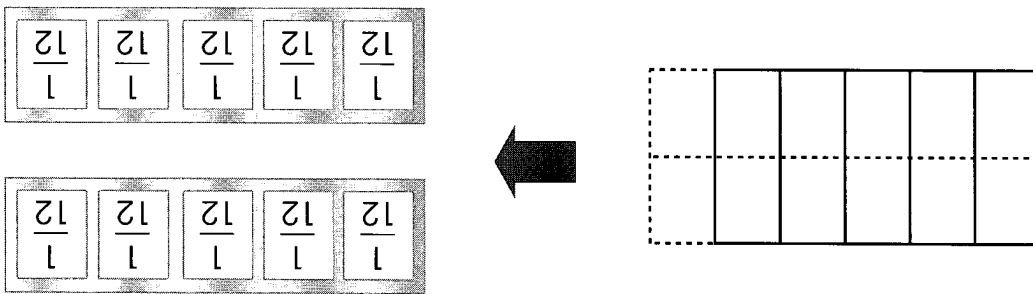
$$\square = \square \times \square = \frac{4}{1} \div \frac{8}{1}$$



(c)  $\frac{3}{4} \div \frac{1}{8}$



$$(f) \quad \frac{5}{3} \div \frac{10}{3}$$

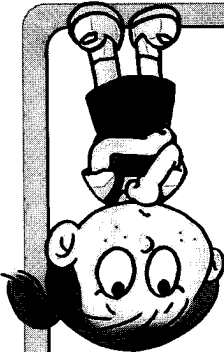


$$(e) \quad \frac{5}{6} \div \frac{12}{5}$$

2.

Match each division to the correct answer.

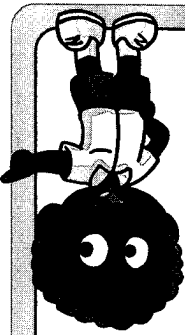
$\frac{2}{5} \div \frac{7}{6}$	$1\frac{1}{3}$
$\frac{7}{9} \div \frac{1}{3}$	$1\frac{1}{5}$
$\frac{5}{6} \div \frac{3}{5}$	$1\frac{1}{7}$
$\frac{3}{2} \div \frac{12}{5}$	$2\frac{1}{3}$
$\frac{1}{8} \div \frac{5}{6}$	$1\frac{1}{18}$
	$\frac{7}{15}$



$(a) \frac{1}{3} \div \frac{1}{12}$	$(b) \frac{1}{4} \div \frac{1}{12}$
$(c) \frac{3}{4} \div \frac{1}{8}$	$(d) \frac{2}{3} \div \frac{1}{9}$
$(e) \frac{1}{4} \div \frac{3}{5}$	$(f) \frac{1}{3} \div \frac{5}{6}$

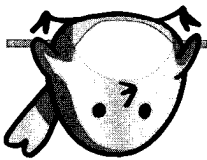
3. Divide the following.





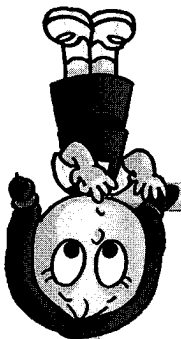
$(k) \frac{4}{7} \div \frac{14}{9}$		
$(i) \frac{3}{4} \div \frac{13}{16}$		
$(i) \frac{8}{3} \div \frac{1}{4}$		
$(i) \frac{1}{6} \div \frac{3}{8}$		
$(g) \frac{5}{6} \div \frac{2}{3}$		
$(h) \frac{3}{7} \div \frac{4}{5}$		

$3 \div \frac{1}{3}$	•	$\frac{1}{1} \times \frac{2}{2}$
$\frac{2}{3} \div \frac{1}{3}$	•	$3 \times 3$
$\frac{1}{2} \div \frac{3}{3}$	•	$\frac{3}{2} \times 3$
$\frac{1}{2} \div 2$	•	$2 \times 2$
$2 \div \frac{1}{2}$	•	$\frac{1}{3} \times \frac{3}{2}$



1. Match each pair with the same answer.

Date:



$$\frac{6}{5}$$

•

•

$$4 \div \frac{1}{4}$$

$$24$$

•

•

$$\frac{3}{2} \div \frac{4}{5}$$

$$16$$

•

•

$$2 \div \frac{4}{3}$$

$$\frac{2}{3}$$

•

•

$$\frac{1}{2} \div \frac{1}{3}$$

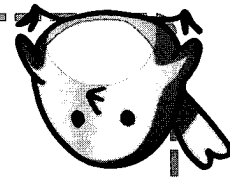
$$\frac{2}{3}$$

•

•

$$3 \div \frac{1}{8}$$

2. Match each division to the correct answer.



3. Tick the correct answer.

(d)  $\frac{1}{4} \div \frac{3}{8}$

<input type="checkbox"/>	$\frac{1}{2}$
<input type="checkbox"/>	$\frac{3}{2}$
<input type="checkbox"/>	$\frac{22}{3}$
<input type="checkbox"/>	$\frac{2}{1}$

(c)  $\frac{6}{5} \div \frac{1}{3}$

<input type="checkbox"/>	$\frac{5}{2}$
<input type="checkbox"/>	$2\frac{1}{2}$
<input type="checkbox"/>	$3\frac{3}{5}$
<input type="checkbox"/>	$\frac{18}{5}$

(b)  $\frac{3}{2} \div \frac{4}{3}$

<input type="checkbox"/>	$1\frac{1}{8}$
<input type="checkbox"/>	2
<input type="checkbox"/>	$\frac{9}{8}$
<input type="checkbox"/>	$\frac{2}{1}$

(a)  $6 \div \frac{1}{6}$

<input type="checkbox"/>	6
<input type="checkbox"/>	$\frac{36}{1}$
<input type="checkbox"/>	1
<input type="checkbox"/>	36

$$(h) \quad \frac{5}{6} \div \frac{6}{2}$$

	$\frac{5}{2}$	$2\frac{1}{2}$	$\frac{5}{12}$	10
--	---------------	----------------	----------------	----

$$(g) \quad \frac{5}{2} \div \frac{1}{8}$$

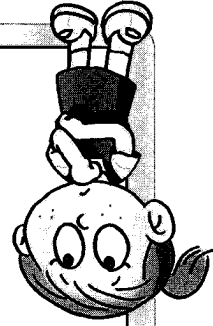
	$3\frac{5}{1}$	$\frac{5}{4}$	$\frac{1}{20}$	$\frac{5}{16}$
--	----------------	---------------	----------------	----------------

$$(f) \quad \frac{1}{9} \div \frac{9}{2}$$

	2	$\frac{2}{81}$	$\frac{1}{2}$	$40\frac{1}{2}$
--	---	----------------	---------------	-----------------

$$(e) \quad \frac{3}{2} \div \frac{4}{9}$$

	$\frac{3}{2}$	$\frac{8}{27}$	$2\frac{2}{3}$	$1\frac{1}{2}$
--	---------------	----------------	----------------	----------------



$$(e) 6 \div \frac{2}{5}$$

$$(f) 4 \div \frac{5}{7}$$

$$(c) 4 \div \frac{3}{2}$$

$$(d) 5 \div \frac{1}{6}$$

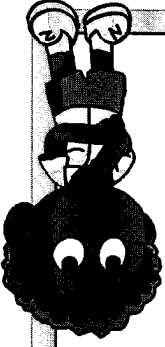
$$(a) 2 \div \frac{5}{6}$$

$$(b) 3 \div \frac{7}{9}$$

4. Divide the following.

5. Divide the following.

$(a) \frac{1}{3} \div \frac{1}{8}$		
$(c) \frac{1}{4} \div \frac{3}{10}$		
$(b) \frac{1}{2} \div \frac{1}{10}$		
$(d) \frac{1}{5} \div \frac{11}{12}$		
$(e) \frac{3}{2} \div \frac{8}{3}$		
$(f) \frac{3}{4} \div \frac{9}{2}$		





6. How many halves are there in 12 wholes?
7. How many five-sixths are there in 10 wholes?
8. How many one-ninths are there in  $\frac{2}{3}$ ?
9. How many one-tenths are there in  $\frac{4}{5}$ ?





# 5 Percentage

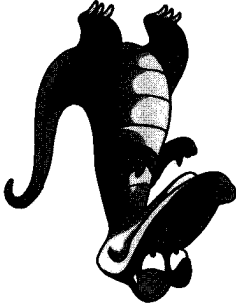
## WORK Sheet 13

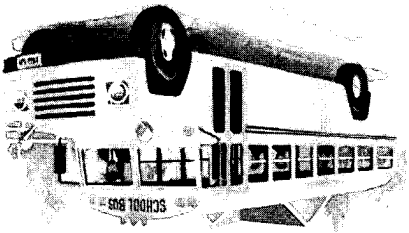
Date:

### Find the Whole Given a Part and the Percentage

1. 5% of a sum of money is \$12. How much is the sum of money?

2. 10% of a school population is 125. What is the school population?






4. After travelling 60 km, a bus covered only 40% of its whole journey. What was the distance of the whole journey?

3. 20% of the length of a stick is 41 cm. How long is the stick?

5. There are 66 five-room flats in a certain housing estate. This is 30% of the total number of flats in the housing estate. What is the total number of flats in this housing estate?

6. David spent \$800 on buying household items. This is 40% of his monthly salary. How much is David's monthly salary?

8. Jack drank 490 ml of water from a bottle. This was 70% of water in the bottle.
- Find
- (a) the original amount of water in the bottle,
  - (b) the amount of water left in the bottle.

7.  55% of the pupils in a school are boys. There are 1100 boys in the school.
- Find
- (a) the total number of pupils in the school,
  - (b) the number of girls in the school.


1. Peter had 50 cards. After his brother gave him some more, he had 60 cards. What was the percentage increase in the number of Peter's cards?

2. 1 kg of beef cost \$5 last year. But now it costs \$6. What is the percentage increase in the price of 1 kg of beef?

## Percentage Increase and Percentage Decrease

### WORK SHEET 14

Date:

3. The height of a tree was 200 cm last year. Now its height is 240 cm. What is the percentage increase in the height of the tree?
4.  The mass of Jane was 25 kg last year. Now her mass is 32 kg. What is the percentage increase in Jane's mass?

6. Mr Lee's savings in April was \$200 and his savings in May was \$190. What was the percentage decrease in Mr Lee's savings?

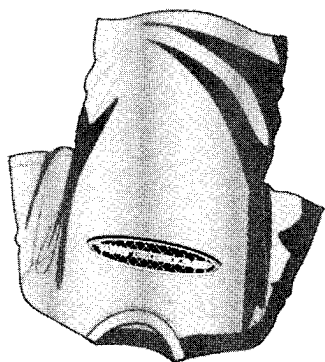
5. The table shows the amount of money Mr Nathan saved in 2 months. Find the percentage increase in the amount of money Mr Nathan saved in July compared to June.

June	\$500
July	\$650

8. The usual price of a shirt is \$20. Its price after discount is \$17. What is the percentage decrease in the price of the shirt?

7. The mass of Rahmat in June was 90 kg. After one-month of dieting, Rahmat's mass was 81 kg. What was the percentage decrease in Rahmat's mass?





In a sale, a T-shirt was sold at \$19. Its original price was \$25. Find the percentage decrease in the price of this T-shirt.



10.

9. In a school, the number of participants in the Singapore Mathematics Olympic was 300 last year. The number of participants has dropped to 210 this year. What is the percentage decrease in the number of participants?

2. Mrs Lee bought a 5-kg package of rice. After a week, there were only 1500 g of rice left. What was the percentage of rice left?

1. John had a string of 2 m long. He cut out a part measuring 60 cm from it. What was the percentage of the part cut out?


## Word Problems

## WORK SHEET 15

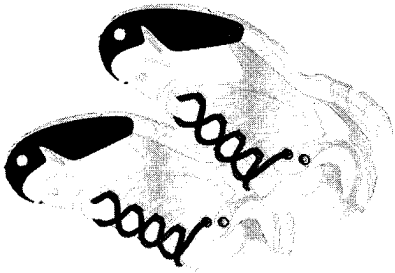
Date:

**3.** After spending 30% of the money she had, Betty was left with \$7. How much money did she have before spending?

**4.** In a Mathematics test, 90% of the pupils in a class passed the test. The number of pupils who failed the test is 3. Find  
(a) the number of pupils in this class,  
(b) the number of pupils who passed the test.

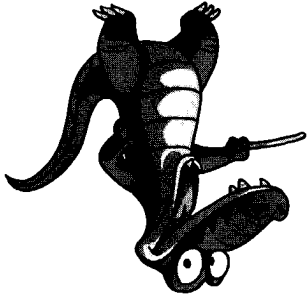
5.  48% of the pupils in a school are girls. The number of boys in that school is 1040. Find
- (a) the number of pupils in the school,  
(b) the number of girls in the school.

6. In a sale, John bought a pair of shoes with a 10% discount. He paid \$45. Find
- (a) the original price of the shoes,  
(b) the amount of discount in dollars.



7. In a concert, 30 % of the people are men, 25% of the people are women. The remaining 540 are children. How many people are there in total in the concert?

8. Jane, Peter and John have 215 cards altogether. Jane has 20% of the cards. Peter has 20 more cards than John. How many cards does John have?



(c) 50% of the volume of water in a tank is 225 l. What is the volume of water in the tank?

(b) 70% of the number of members in a club is 140. What is the number of members in the club?

(a) 20% of a sum of money is \$320. What is the sum of money?

1. Find the original amount in each case.



Date:

2. Mr Tan saves \$540 each month. This is 27% of his monthly salary. What is his monthly salary?



3. 48% of the pupils in a primary school are girls. There are 768 girls in the school.  
(a) How many pupils are there altogether in the school?  
(b) How many boys are there in the school?



5. A rope was cut into two parts. The shorter part is 35% of the whole rope and the longer part is 195 cm. What is the length of the whole rope?



4. After a 15% discount is given, the selling price of a computer is \$1360. What is the usual price of the computer?







(d) Express 570 m as a percentage of 3 km.


(c) Express 6 cm as a percentage of 0.3 m.

(b) Express 550 g as a percentage of 2 kg.


(a) Express 125 ml as a percentage of 20%.

6. Express each of the following as a percentage.

7. The mass of Jane was 20 kg last year. Her mass now is 25 kg. What is the percentage increase in Jane's mass?

8.  Ms Lee's monthly salary was \$1500 last year. It is increased to \$1800 this year. What is the percentage increase in her salary?

9. The number of pupils in a school was \$1800 last year. It is \$1500 this year. What is the percentage decrease in the number of pupils in the school?

10.  At a carnival, Jim gave away 240 balloons to the children on the first day. On the second day, he gave away only 160 balloons. What was the percentage decrease in the number of balloons Jim gave away on the second day?

12. 60% of Mingfa's stamps are foreign stamps. Mingfa has 150 local stamps.
- (a) How many stamps does Mingfa have in total?
  - (b) How many foreign stamps does Mingfa have?

11. After using 30% of the total number of eggs, a cook still had 14 eggs left in his basket. Find
- (a) the total number of eggs at the beginning,
  - (b) the number of eggs used.

**13.** Peter, Mary and John shared some cards. Peter got 30% of the cards, Mary got 25% of the cards, and John got 135 cards. What was the total number of the cards?

**14.** John spent 15% of the amount of money he had on a school bag and \$30 on a pair of shoes. He had \$140 left. How much did John have originally?



# 9

## Speed

### WORK SHEET 16

### Speed

1. Calculate the speed using the formula,  $Speed = \frac{Distance}{Time}$

Distance	Time
360 km	4 h
56 m	7 min
93 m	10 s
27 cm	9 s

(a)

(b)

(c)

(d)

(a)  $Speed = \frac{Distance}{Time} =$

(b)

(c)

(d)



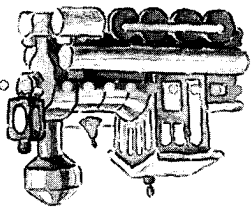
Date:

2. Find the speed in each case.

(a) A boy walked 150 m in 10 min.

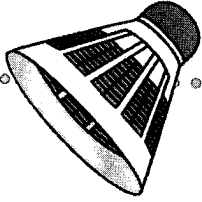
$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} =$$

(b) A train travelled 210 km in 3 hours.



(c) A bird flew 48 m in 8 s.

(d) A shuttlecock dropped 100 cm in 4 s.



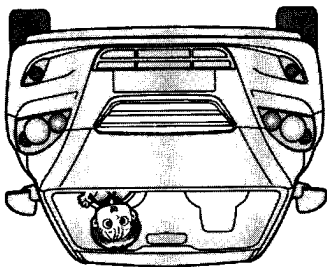
5. Find the speed of an express train that travelled 1568 km in 16 hours.



4. William takes 12 minutes to reach school which is 300 m from his house. Find his speed.



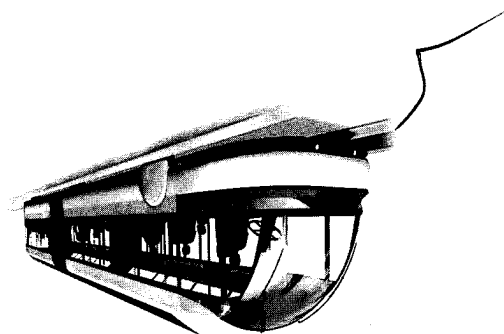
3. A motorist covered 134 km in 2 hours. At what speed was he driving??





6. The distance from Town A to Town B is 380 km. Mr Lee left Town A at 11.05 a.m. and drove to Town B. He arrived at Town B at 3.05 p.m. What was Mr Lee's speed?

7. Mr Wang started jogging at 7.40 a.m and stopped jogging at 8.30 a.m. He jogged 4000 m. What was the speed of his jogging in m/min?



2. An MRT train moves at a speed of 120 km/h. How far does the train move in
- (a) 15 min,
  - (b) 45 min?


1. A car travelled at 55 km/h for 4 hours. How far did it travel?

## Distance, Time and Speed

### WORK SHEET 17

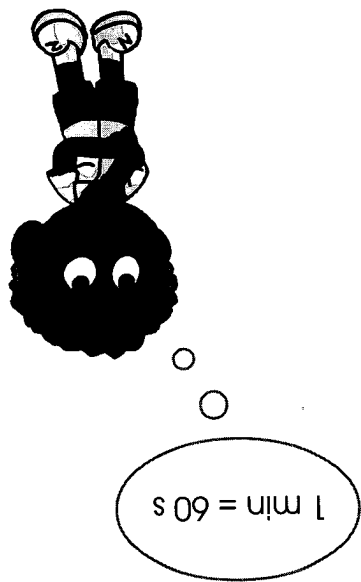
Date:


3. A ship travelled 14 hours at a speed of 55 km/h. How far did the ship travel?


4.  Find the distance travelled by a car moving at 100 km/h for  $2\frac{1}{2}$  hours.

5. A car is travelling at a speed of 60 km/h. How long will it take to travel a distance of 240 km?


6. A horse runs at a speed of 6 m/s. How many minutes does it take to travel 7200 m?




7.  How long does it take for Peter to walk 1500 m at a speed of 240 m/min?

8.  How long does it take to travel a distance of 1550 m at 25 m/min? Express your answer in hours and minutes.

10. Mrs Lin walked from her house to the market. Her speed for the journey was 65 m/min. She left home at 8.20 a.m and arrived at the market at 8.34 a.m. What was the distance from her house to the market?

9.  Mr Wang drove a distance of 248 km from Singapore to Malacca. His speed was 62 km/h. He left Singapore at 7.20 a.m. When did he arrive at Malacca?


2. A motorist travelled 130 km in the first 2 hours. For the following 3 hours, he travelled 210 km. What was his average speed for the whole journey?


1.  John jogged 3000 m in the first 20 minutes. Then he jogged 2000 m in the next 15 minutes. What was his average speed for the whole journey? Give your answer correct to the nearest whole number.

## Average Speed and Word Problems

**WORK SHEET 18**

Date:

3.  Mr Tan took  $3\frac{1}{2}$  hours to drive at an average speed of 60 km/h from Town A to Town B. When he returned from Town B to Town A, he increased his speed to 70 km/h. How long did he take to drive from Town B to Town A?

4.  The diagram below shows the bus route from Town A to Town C.




A bus left Town A at 8.30 a.m and arrived at Town C at 10.30 p.m. Find the average speed of the bus for the whole journey.

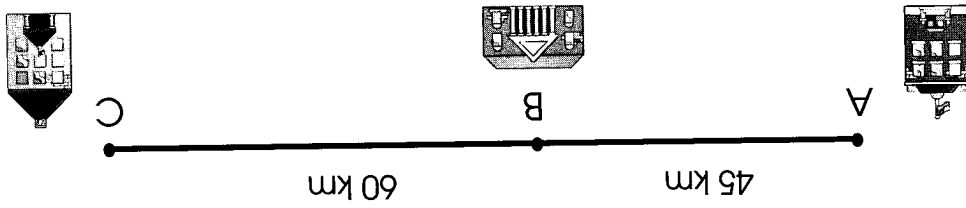


5. Mr Wang took 5 minutes to walk from his house to a park at a speed of 40 m/min. He then jogged for 45 minutes at a speed of 65 m/min at the park. Find the total distance he travelled.

6. At 09 45 a train left Town A for Town B, travelling at an average speed of 76 km/h. The distance from Town A to Town B is 190 km. At what time did the train reach Town B?

7.  At 10.30 a.m., a car travelled from Town A to Town B at an average speed of 65 km/h. Another car left Town B at the same time and travelled towards Town A at an average speed of 70 km/h. The distance between Town A and Town B was 810 km. At what time would the two cars meet?

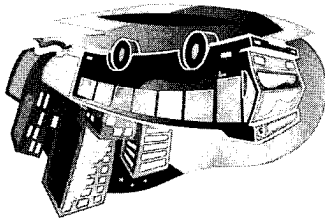
8. Three towns are linked by a route as shown below.



Mr Tan left Town A for Town C at 9.40 a.m at an average speed of 75 km/h. Mr Lee left Town B for Town C at the same time at an average speed of 30 km/h. At what time would Mr Tan and Mr Lee meet?


# Practice 6

Date:

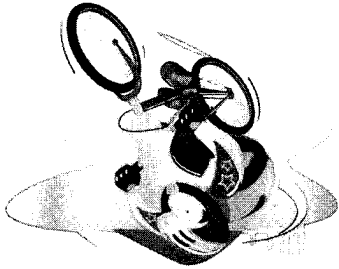


1. An express bus covered 560 km in 7 hours.
  - (a) Find the average speed of the bus.
  - (b) If the speed of the bus was 70 km/h instead, how long did the bus take to cover the distance?

2. A car travelled at an average speed of 90 km/h for 2 hours. It then travelled at an average speed of 100 km/h for another half an hour. What was the total distance covered in  $2\frac{1}{2}$  hours?

4.  Johan walks at a speed of 25 m/min to school. His school is 500 m from his house. At what time should Johan start walking from his house in order to reach school at 07 30?

3. Cyclist A covered 400 m in 8 minutes. Cyclist B covered 300 m in 5 minutes. Find
- the speed of cyclist A,
  - the speed of cyclist B,
  - the difference in their speeds.

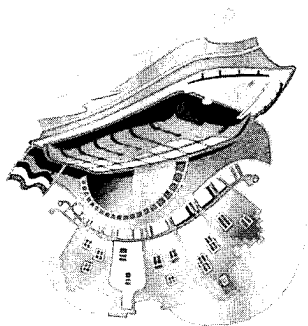


5. A train left station P at 08 10 and arrived at Station Q at 11 10. The distance between Station P and Station Q is 255 km. What was the average speed of the train?

6. Mr Rahman drove from Town A to Town B at an average speed of 80 km/h. The journey took him 3 hours.  
(a) What is the distance between Town A and Town B?  
(b) He drove back from Town B to Town A at an average speed of 60 km/h along the same route. How long did he take to drive from Town B to Town A?

7. A plane left an airport at 09 30 and flew at an average speed of 800 km/h for 5 hours to reach its destination. Find
- (a) the distance travelled,  
(b) the time of arrival at the destination.

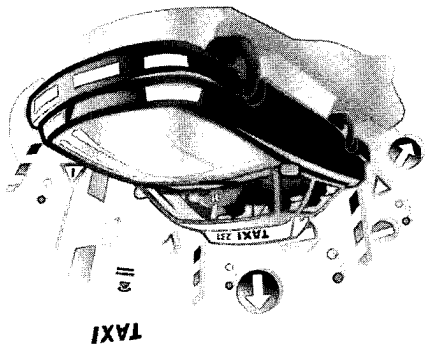
8. A ship left a port at 21 00 and arrived at the next port at 05 00 on the next day. The distance between the 2 ports was 200 km. Find
- (a) the time the journey took,  
(b) the average speed of the ship.



9. Eric took 7 hours to drive a distance of 300 km from Town A to Town B. He took 3 hours to cover the first 140 km of the journey. What was the average speed of Eric for the remaining journey?


10. Two Towns, A and B are 18 km apart. At 8.00 a.m., Peter left Town A and cycled towards Town B at 15 km/h. At the same time, John left Town B and cycled towards Town A at 12 km/h along the same route. At what time did Peter and John meet?

12. Kim cycled from his home to a library at a speed of 12 km/h. He left his home at 21 25 and arrived at the library at 22 00. On his way back, he cycled along the same route, but increased his speed to 14 km/h. How many minutes did he take for the return journey?



11. Mr Tan drove at an average speed of 60 km/h for 3 hours. He then drove at an average speed of 90 km/h for the next 2 hours. Find
- the distance covered at 60 km/h,
  - the distance covered at 90 km/h,
  - the total distance covered by Mr Tan for the 5 hours.

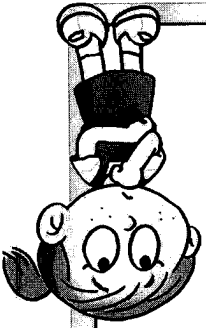


13.  Mr Wong took 5 hours 15 minutes to travel from Town A to Town B. If Mr Wong's average speed for the first 100 km of the journey was 80 km/h, find his average speed for the rest 200 km of the journey.

14. Mr Chen drove from Town A to Town B. He took 3 hours to travel the first  $\frac{4}{5}$  of the journey and another 1 hour to travel the rest of the 50 km of the journey. Find

(a) the distance between the two towns,

(b) Mr Chen's average speed for the whole journey.



(c) Express 26 cm as a percentage of 4 m.



(b) Express 300 g as a percentage of 2 kg.



(a) Express 15 cents as a percentage of \$3

1. Express the following as a percentage:



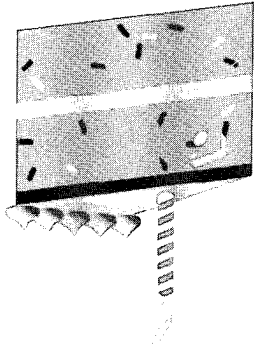
Date:

2. Find the percentage increase.

(a) The price of a package of flour was \$20 last year. It costs \$23 now. What is the percentage increase in the price of a package of flour?

(b) The number of absentees last week in a school was 10. The number of absentees this week is 11. What is the percentage increase in the number of absentees in the school?


(c) The number of cakes sold in a bakery yesterday was 200. The number of cakes sold today is 214. What is the percentage increase in the number of cakes sold in the bakery?



3. Find the percentage decrease.


(a) The original price of a skirt in a shop is \$40. The selling price is \$30. What is the percentage decrease in the price of the skirt?

(b) The expenditure of the Lee family was \$2000 last month. The expenditure is \$1900 this month. What is the percentage decrease in the expenditure of the Lee family?

(c)  The number of participants in a company's year-end-dinner was 125. But this year the number of participants is 120. What is the percentage decrease in the number of participants?



6. The 9 orang utans that appeared in a show were only 60% of the orang utans in the zoo. Find the total number of orang utans in the zoo.

5.  6 pupils make up 24% of a class. Find the number of pupils in the class.

4. 10% of a sum of money is \$50. Find the sum of money.

7. After spending 30% of her savings, Roshita still has \$490 left. Find  
(a) the total savings of Roshita,  
(b) the amount of money spent.
8. Mr Muthu bought a flat with 80% loan from a bank. He paid the balance of \$56 000 by cash. Find  
(a) the price of the flat,  
(b) the amount of loan taken by Mr Muthu.

John, Peter and Mary shared some marbles in a box. John got 30% and Peter got 38% of the marbles. Mary got the rest of 64 marbles. How many marbles were there in the box at first?



9.

The Lim family of 4 went for a buffet lunch. The lunch cost \$20 per person. They had to pay a 10% service charge and then a 7% GST. What was the total cost of the lunch?



10.



11. Work out the following. Give your answer in its simplest form.

(a)  $3 \div \frac{7}{9}$

(b)  $6 \div \frac{5}{4}$

(c)  $7 \div \frac{9}{5}$

(d)  $8 \div \frac{11}{9}$

(e)  $9 \div \frac{10}{3}$

(f) How many one-fifths are there in six wholes?



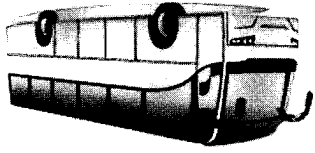
	(g) $\frac{7}{6} \div \frac{8}{3}$		(h) $\frac{5}{12} \div \frac{7}{6}$
	(e) $\frac{5}{8} \div \frac{7}{6}$		(f) $\frac{8}{9} \div \frac{5}{8}$
	(c) $\frac{2}{3} \div \frac{9}{8}$		(d) $\frac{3}{10} \div \frac{5}{2}$
	(a) $\frac{5}{8} \div \frac{4}{1}$		(b) $\frac{7}{10} \div \frac{5}{3}$

12. Find the value of each of the following. Give your answer in its simplest form.

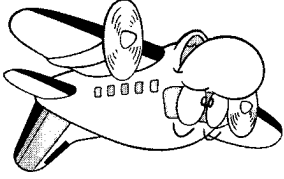
13. Calculate the average speed of each vehicle.

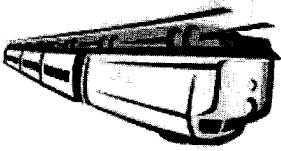
(a) A car took 4 h to travel 300 km.

(b) A bus travelled 150 km in 2 h.



(c) A plane took 3 h to cover a distance of 2190 km.

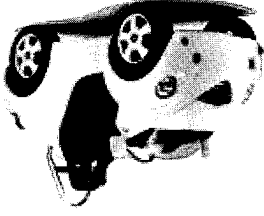




14. A train moves at 88 km/h. Find the distance travelled in


- (a) 3 hours,
- (b)  $1\frac{3}{2}$  hours,
- (c) 15 minutes.





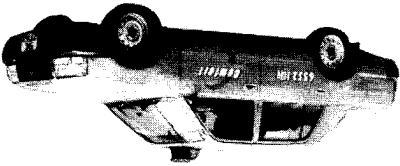
17. A toy car moves at a speed of 1.2 m/s. How far will it travel in 1 min?

Yee-lee.

16.  Yee-lee cycled at 26 km/h for  $1\frac{1}{2}$  h. Find the distance covered by


15. How long will you take to cover a distance of 750 m if you walk at a speed of 30 m/min?

- 18.** A taxi left town A at 11 00 and arrived at town B at 13 00 on the same day. The distance between these two towns is 190 km. Find
- (a) the time taken for the taxi to go from Town A to Town B,
  - (b) the average speed of the taxi.



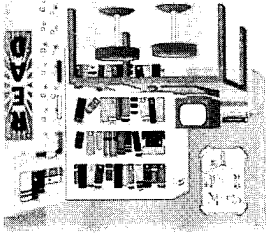
- 19.** Jack cycles to school. His house is 1.2 km away from school. If he cycles at an average speed of 80 m/min, at what time should Jack start cycling from his house in order to reach school by 07 30?

21. A train left the station at 10 40. It travelled at an average speed of 90 km/h to the next station. The distance between the two stations is 225 km. Find the time of arrival at the second station.

20.  Mike travelled from Singapore to Hong Kong for a holiday. The plane left Changi Airport at 12 20 and arrived at Hong Kong at 16 40. If the average speed of the plane was 600 km/h, how far did the plane travel?

**22.** Gopal's house is 1.6 km from his school. He cycles at an average speed of 80 m/min. He left home at 06 15. When did he reach his school?

**23.** The distance from Town A to Town B is 360 km. A car and a van left Town A at the same time for Town B. When the car arrived at Town B at 6.30 p.m., the van was still 120 km away from Town B. The van arrived at Town B at 8.30 p.m.  
(a) Find the average speed of the van.  
(b) At what time did the car and the van leave Town A for Town B?



3. 560 books have been borrowed from the school library. This is only 5% of the total number of books in the library. What is the total number of books in the library?

2. After travelling 110 km, a train only covered 20% of its journey. What is the total distance of the journey?

1. 4% of the total number of Primary 6 pupils in Hillview Primary is 12 pupils. Find the total number of Primary 6 pupils in Hillview Primary.




**4.** A rope is cut into two parts. The shorter part is 60 cm and it is 30% of the length of the whole rope. What is the length of the whole rope?

**5.** In a class, 80% of the pupils wear watches. The number of pupils in the class who do not wear watches is 7. Find  
(a) the number of pupils in the class,  
(b) the number of pupils who wear watches.

6. From a 5-m long rope, a 30-cm part is cut out. What percentage of the rope is cut out?
7. There were 2 ℓ of oil in a bottle. 700 ml of the oil was used for cooking. What percentage of the oil was left?
8. Express 80 g as a percentage of 4 kg.

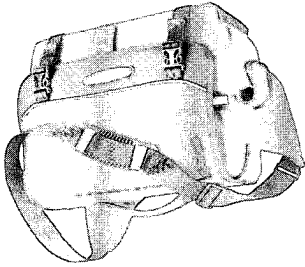
9. There are 120 cars in a car park. This is 30% of all the vehicles in the car park. How many vehicles are there in the car park?

10. John has 21 red marbles. This is 70% of all his marbles. How many marbles does John have in total?

11.  Mr Lim's basic monthly salary is \$2500. This is 85% of his total monthly income. What's Mr Lim's total monthly income?

12. Mrs Wang's monthly salary was \$900 last year, and it is \$1100 this year. What is the percentage increase in her salary? Give your answer correct to the nearest 1%.


13. The usual price of a school bag is \$28. The price after discount is \$22. What is the percentage discount? Give your answer correct to the nearest 1%.




14. Peter was 145 cm tall last year. He is 151 cm tall now. What is the percentage increase in his height? Give your answer correct to the nearest 1%.

- 15.** The ratio of the amount of money Andrew had to that Bill had was 2 : 5. After Bill spent 40% of his money, he had \$45 more than Andrew. How much money did Andrew have?

- 16.** Mrs Tan went shopping with \$200. She spent 20% of the money on a skirt. Then she spent  $\frac{1}{4}$  of the remainder on a pair of shoes. How much money did the pair of shoes cost?

 18. In a school, 45% of the pupils were boys. 144 of the boys took part in the school sports day. This was  $\frac{1}{5}$  of the total number of boys in the school. How many pupils were there in the school?

 17. Mr Lee sold 20% of the eggs in his stall on Monday and  $\frac{1}{5}$  of the remainder on Tuesday. He had 384 left. How many eggs had he in his stall at first?

19. How many two-sevenths are there in 4 wholes?

20. How many one-ninths are there in  $\frac{2}{3}$ ?

21. How many three-eighths are there in 6?

24. Find the value of  $8 \div \frac{5}{6}$ .


23. Find the value of  $\frac{1}{3} \div \frac{7}{9}$ .

22. Find the value of  $\frac{3}{7} \div \frac{4}{8}$ .



25. In 4 hours, Fred travelled 332 km. What was his average speed?


26. How long will Silva take to cover 280 m if he walks 40 m/min?

27.  A bus is travelling at an average speed of 90 km/h. How far will it travel in  $1\frac{2}{3}$  h?

- 28.** Laila started her morning walk at 07 30. After walking for 2 km, she checked her watch. The time was 08 00.
- (a) Find Laila's average speed in km/h.
- (b) After resting for 20 min, Laila walked home at the same speed using the same route. Find the time when she arrived home.
- 29.** Jerry took 4 hours while Tom took 5 hours to travel from Town A to Town B. Jerry travelled at an average speed of 65 km/h. What was Tom's average speed?

**30.** Mr Wong leaves home every morning at 8.00 a.m. and reaches his office at 8.40 a.m. His office is 24 km away from his home. He left his home 10 minutes late one morning but still managed to arrive at the usual time. What was Mr Wong's average speed in km/h that morning?

**31.** Town A was 240 km away from Town B. The average speed of a car was 90 km/h. The average speed of a van was 80 km/h. They left Town A for Town B at the same time and travelled along the same route. How many minutes did the car arrive at Town B earlier than the van?

-  **32.** Town A is 340 km away from Town B. A tour bus started off from Town A to Town B at 5.30 a.m. The speed of the tour bus was 60 km/h. One hour later, a car started off from Town A to Town B along the same route. They arrived at Town B at the same time. What was the average speed of the car? Give your answer correct to 1 decimal place.