

Real Life Maths

For Ages 10+

Book 1



Written by David J. Cohen.

© Ready-Ed Publications - 2004.

Published by Ready-Ed Publications (2004) P.O. Box 276 Greenwood Perth W.A. 6024

Email: info@readyed.com.au Website: www.readyed.com.au

COPYRIGHT NOTICE

Permission is granted for the purchaser to photocopy sufficient copies for non-commercial educational purposes. However, this permission is not transferable and applies only to the purchasing individual or institution.

ISBN 1 86397 593 4

Contents

Links to Maths Outcome Statements and Achievement Objectives	4
Rationale	6
Teachers' Notes	7
Section 1: Making the Connections	
Making the Connections - 1	8
Making the Connections - 2	9
Making the Connections: Your Assignments	10
Section 2: Maths Surveys	
Maths Interview	11
Real Life Maths Survey One (a)	12
Real Life Maths Survey One (b)	13
Real Life Maths Survey Two (a)	14
Real Life Maths Survey Two (b)	15
Real Life Maths Survey Three (a)	16
Real Life Maths Survey Three (b)	17
Section 3: Maths in the News	
Maths in the News - 1	18
Maths in the News - 2	19
Maths in the News: Your Assignments	20
Section 4: Maths in Advertising	
Maths in Advertising - 1	21
Maths in Advertising - 2	22
Maths in Advertising: Your Assignments	23
Section 5: Taking a Holiday	
Taking a Holiday - 1	24
Taking a Holiday - 2	25
Taking a Holiday - 3	26
Taking a Holiday - 4	27
Taking a Holiday - 5	28
Taking a Holiday - 6	29
Section 6: Planning a Holiday	
Planning a Holiday: Your Assignments	30
Planning a Holiday - 1	31
Planning a Holiday - 2: The Budget	32
Planning a Holiday - 3	33
Section 7: Mobile Phone	
Mobile Phones - 1	34
Mobile Phones - 2	35
Mobile Phones - 3	36
Mobile Phones - 4	37
Mobile Phones: Your Assignments	38
Reflection	39
Answers	40

Real Life Maths Survey One (a)

Use your maths skills to find out how you and your family rely on maths understandings in your home every single day. Select a day of the week to complete this survey. Show how you arrived at the answer in the working out boxes. Remember, there is often more than one way of arriving at an answer. When you have finished, make a list of the mathematical concepts you used to help complete this survey.

Survey Day: _____ Name: _____ Class: _____

1) What is the address of your house?

2) What is your phone number?

3) How many people are there in your family?

4) What is the combined total age of everyone in your house?

► SHOW YOUR WORKING HERE:

ANSWER

5) What is the average age of everyone in your house?

► SHOW YOUR WORKING HERE:

ANSWER

8) What is the wattage capacity of your family's stereo speakers?

6) Order your family's height from smallest to tallest:

7) Order your family's length of hair from shortest to longest:

9) How many hours did your mum work today?

► SHOW YOUR WORKING HERE:

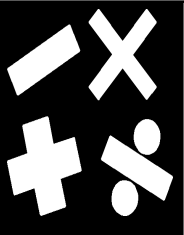
ANSWER

10) How many hours were you awake yesterday?

► SHOW YOUR WORKING HERE:

ANSWER

Maths in Advertising - 1



Background

Shopping is one of the most important things we are able to do to show we can take care of ourselves by meeting basic needs. Being able to go shopping, means we are responsible for our money and know how to use it to purchase goods. Sometimes we buy things we need such as food and clothes (needs). Other times we buy things we like to have, like a CD or watch (wants).

Businesses want you to spend money at their store and they usually advertise to encourage you to do so. We see advertisements all the time – in newspapers, magazines, on television and radio. You will even recall advertising on buses, trains and bill boards. Often advertisers will have specials and discounts in the hope that you will be encouraged to shop with them.

Demonstrate Your Understanding

Below are some sample paragraphs taken from advertisements that you might find in newspapers and magazines. Read them carefully and underline the mathematics in each advertisement. Discuss your understanding with a partner. Talk about what all the abbreviations mean.

CRAZY PETE'S PHONES

New Philips Fisio 820 mobile phone. Brings colour to your mobile world.



A large 256 colour display. Built-in modem, 19 ringer melodies. Specifications: 85 grams, 97 x 46 x 20mm, standby up to 4 hours 20 mins.

Product colour – Mars Red Rrp: \$649

Jock The Scot's Discounts

STORES IN EPPING, SOUTHLAND AND MTERCIA



Tiny Digital MP3 player that easily fits in your pocket.

Features: 32MB memory, Unit dimensions 5.2cm (W) x 2.5cm (H) x 1.5cm (D), Play

Back mode - Random / Repeat One or All, Equalizer - bass and treble, Lock switch - secures your player in play mode or locks the player in OFF state.

Now only \$170. Be quick.

COMPUTER SUPERMARKET



Travelmate
234 x
\$1899.00.

The Travelmate 230 Series all-in-one multimedia notebook from Acer. Features

include: CPU mobile Intel® Celeron® processor 2.2 ghz, 1.44 MB fdd, 20 GB hdd, memory 128 MB, lithium ion battery, life up to 2.5 hours, 14.1" tft XGA colour LCD

screen, twin stereo speakers, built-in 56kbps international fax/modem, 2 x usb 2.0 ports, CD-Rom 24 x CD-ROM drive.

Weight: 3.0kg

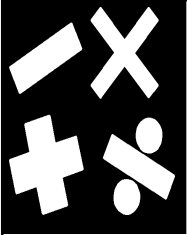


Jock The Scot's Discounts

This CD system features a vertical CD player, and comes with a remote control. It has a AM/FM radio with 20 preset stations, and a built-in clock with calendar and alarm functions. Features: * CD System with PLL radio & multi-clock, temperature function, multi-clock with calendar and alarm function, the box measures 27cm in height, 47cm in width.

Was \$369, now \$319.

Taking a Holiday - 1



Background

People who travel on a holiday are called "tourists". People love travelling and enjoy the experience of seeing fantastic new places. Tourism is, in fact, the world's largest industry and currently the most popular international destination in the world is Europe, with the most visited country in the world being France. In Australia and New Zealand people love to travel as well. People who travel in their own country are called "domestic tourists". In Australia, the domestic tourism industry is worth \$A54 billion, while in New Zealand, tourism employs 10% of the workforce.

When did you last go on a holiday? Do you realise how much maths is used to help you get there and enjoy yourself? You need to know how to read timetables and clocks, calculate travelling time and distances, handle money, change money into foreign currency, and pay for things like food, hotels, taxis and entry fees into tourist attractions. Maths is absolutely everywhere when you travel!

Maths Concepts Covered In This Topic

Multiplication, adding, division, subtraction, rounding, analogue and digital clocks, graphing and interpreting data, identifying shapes, decimals, scales, location, maps, direction, working with temperatures, chance, graphing and interpreting data, area, estimation, prime numbers, identifying shapes, calendars and ordering.

Demonstrate Your Understanding

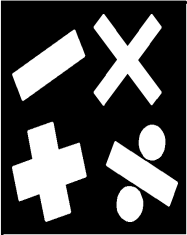
- 1) Aunt May is meeting Uncle Tom at the airport. Aunt May's house is 15 kilometres away from the airport. How much time should she allow to get to the airport on time and what should her average speed be? Explain.

- 2) Using an atlas or the Internet, find the approximate distances between the places below in kilometres. Be careful to take note of the scale if using maps. Assuming you can drive directly to your destination, estimate the amount of time needed to drive each distance if you travel at approximately 90 kilometres per hour.

Tip: Try these websites: www.travelmate.com.au and www.accommodationz.co.nz/distances.html

ROAD TRIPS	APPROX DISTANCE (KM) (Round to nearest 10 km)	ESTIMATED TIME OF JOURNEY
Melbourne to Canberra	650	approx. 7 hours
Darwin to Sydney	_____	_____
Christchurch to Dunedin	_____	_____
Kalgoorlie to Ayers Rock	_____	_____
Melbourne to Brisbane	_____	_____
Darwin to Adelaide	_____	_____
Perth to Sydney	_____	_____
Invercargill to Nelson	_____	_____
Cairns to Brisbane	_____	_____

Mobile Phones - 1



Background

Although digital wireless technology dates back to the 1940s, mobile telephones have only been readily available since the early 1990s. Businesses were the first to use mobile phones, making appointments and speaking to clients at any time or place.

First (1G) and Second Generation (2G) phones expanded the use of mobiles around the world as they became smaller, cheaper to buy and easier to operate. The cost of a mobile phone came within the reach of most people by the end of the 1990s. People from all walks of life wanted to own a mobile phone. In 2003 alone, sales around the world were expected to top 483 million.

For peace of mind, parents willingly buy their children a mobile phone in case of emergencies. However, children see mobiles more as a social tool to keep in contact with friends. Text messaging has brought in a new and popular way for people to communicate.

In 2003, Third Generation (3G) phones were released. Third Generation mobiles can download videos, send e-mail, surf the Internet and send live video and picture messaging. Fourth Generation (4G) phones are due for release in 2010 and will allow even faster downloading of entire movies and CDs with high quality pictures and sound.

Maths Concepts Covered In This Topic

Multiplication, adding, division, subtraction, rounding, analogue and digital clocks, graphing and interpreting data, identifying shapes, decimals, scales, maps, symmetry, data and 3D construction.

Demonstrate Your Understanding

- 1) Mobile phones are usually bought on a "plan". A plan is like a contract where the purchaser agrees to pay for the phone over time – usually 18 or 24 months.

Calculate the monthly cost of these plans:

- i) 24 month contract of \$1068 total cost for the phone, including \$20 worth of calls per month, plus \$100 upfront connection fee: _____
- ii) 24 month contract of \$768 total cost for the phone, including \$15 worth of calls per month, plus \$100 upfront connection fee: _____
- iii) 12 month contract of \$288 total cost for the phone, including \$10 worth of calls per month, plus \$0 upfront connection fee: _____
- iv) 12 month contract of \$300 total cost for the phone, including \$10 worth of calls per month, plus \$0 upfront connection fee: _____