



For Supervisor's use only

1

90151



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

Level 1 Mathematics, 2004

90151 Solve straightforward number problems in context

Credits: Three

9.30 am Thursday 11 November 2004

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

You should show ALL working.

If you need more space for any answer, use the pages provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–7 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Achievement Criteria <i>For Assessor's use only</i>		
Achievement	Achievement with Merit	Achievement with Excellence
Solve straightforward number problems in context. <input type="checkbox"/>	Solve number problems in context involving manipulation, several steps or reversing processes. <input type="checkbox"/>	Devise a strategy and solve a number problem. <input type="checkbox"/>
Overall Level of Performance		<input type="checkbox"/>

You are advised to spend 30 minutes answering the questions in this booklet.

Olympic Games

You should show **ALL** working.

QUESTION ONE

For the Olympic Games, the silver medals are made from silver and copper in the ratio

$$\text{silver : copper} = 37 : 3$$

A silver medal weighs 568 grams.

Find the **weight of silver** in a silver medal.



Weight of silver = _____ g

QUESTION TWO

There were 14 nations at the 1896 Olympic Games in Athens.
At the 2004 Olympic Games in Athens there were 201 nations.

What was the **percentage increase** in the number of nations?

Percentage increase is _____ %

QUESTION THREE

- (a) At the Olympic Games in Barcelona, $\frac{1}{2}$ the medals won by New Zealand were bronze medals and $\frac{2}{5}$ were silver medals. The rest were gold medals.

What **fraction** of the medals won by New Zealand at Barcelona were gold medals?

Fraction is _____

- (b) There were 364 athletes in the New Zealand Olympic Team that went to Barcelona in 1992. The number of athletes increased by 15.2% for the next Olympic Games in Atlanta in 1996.

How many athletes were in the New Zealand Olympic Team that went to Atlanta?

QUESTION FOUR

The 2008 Olympic Games will be in China.

The population of China is 1.289×10^9 .

The number of people in China, aged between 10 and 24 years, is 3.17×10^8 .

What percentage of the population of China is aged between 10 and 24 years?

Percentage of the population of China, aged between 10 and 24 years = _____ %

QUESTION FIVE

Visitors to the Olympic Games booked 31 450 hotel rooms in Sydney in 2000.
This was 85% of the hotel rooms in Sydney at that time.

How many hotel rooms were there in Sydney in 2000?

There were _____ hotel rooms in Sydney.

QUESTION SIX

Sets of replica medals were bought by a shop for \$125 per set (excluding GST).

The shop then put a mark-up of 60% on each set of medals.

The shop found that the sets of medals did not sell.

In a sale, all the prices were reduced by $\frac{1}{4}$.

How much would a customer have to pay for a set of replica medals in the sale?

(Remember the customer will have to pay GST at 12.5%.)


