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NZQA

NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

For Supervisor's use only

Level 1 Mathematics, 2007

90151 Solve straightforward number problems in context

Credits: Three
9.30 am Tuesday 20 November 2007

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 page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–6 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.

For Assessor's use only	**Achievement Criteria**				
Achievement		**Achievement with Merit**		**Achievement with Excellence**	
Solve straightforward number problems in context.		Solve number problems in context involving manipulation, several steps or reversing processes.		Devise a strategy and solve a number problem.	
Overall Level of Performance					

You are advised to spend 25 minutes answering the questions in this booklet.

You should show ALL working,

Assessor's use only

THE TRAVEL AGENCY

QUESTION ONE

Jed's plane tickets and accommodation for a holiday in Fiji cost $1 746.

If the plane tickets cost Jed $761, what percentage of the cost was his accommodation?

Accommodation = _____ %

QUESTION TWO

In July, half of a travel agency's customers were making their 2nd booking with the agency.
Another third of the July customers had already booked at least twice with the agency.
The rest of the bookings with the travel agency were first-time customers.

What fraction of the July customers were first-time customers?

Fraction _____

QUESTION THREE

In October, the travel agency arranged 1 836 flights to Australian cities.
The flights went to Brisbane, Sydney, Cairns and Perth in the ratio 6 : 3 : 2 : 1.

Calculate the number of flights that went to Sydney.

Number of flights to Sydney _____

QUESTION FOUR

Assessor's use only

The travel agency is offering discounts on all flights to Australia this month.

(a) Flights to Sydney are usually $280.
Dana bought a ticket for a flight to Sydney and got a 15% discount.

How much did Dana pay for her ticket?

Amount Dana paid $ _____

(b) Samu's ticket to Brisbane was discounted by 18.5%.
Samu paid $243 for his ticket.

What was the usual cost of a ticket to Brisbane?

Usual cost of a ticket to Brisbane $ _____

(c) Pepe paid $459 (including GST) for a ticket to Perth.

Calculate the GST content of the ticket price. (GST is 12.5%)

GST content $ _____

QUESTION FIVE

Assessor's use only

Last year the travel agency arranged a total of 1.75×10^4 flights for customers.
These flights represented a total flying distance of 3.29×10^8 kilometres.

What was the mean distance of a flight for a customer of the travel agency last year?

Mean distance is _____ kilometres

QUESTION SIX

Assessor's use only

The travel agency's prices for a flight to Singapore have increased each year since 2001.

In November 2001, the price was $985.
During each of the next three years there was an increase of 2.5% on the previous year's price.
By November 2005, the price had increased by 2.8% on the previous year's price.
By November 2006, the price had increased again – this time by a further 3.4%.
By November 2007, the price had increased yet again – this time by a further 5.7%.
In December 2007, the travel agency is planning to advertise Singapore flights at

"**less than November 2001 prices**".

There are serious penalties for false advertising claims, so the travel agency want to be sure their advertisement is not false.
Calculate the minimum percentage discount they will have to offer on their November 2007 price for their claim to be true.
Set your work out clearly, showing what is being calculated at each step, and explain any decisions you make.

Extra paper for continuation of answers if required.
Clearly number the question.

Assessor's use only

Question number	

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