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NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

For Supervisor's use only

Level 1 Mathematics, 2009

90151 Solve straightforward number problems in context

Credits: Three
9.30 am Friday 20 November 2009

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.

The questions in this paper are NOT in order of difficulty. Attempt all questions or you may not provide enough evidence to achieve the required standard.

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

You should show ALL working.

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 30 minutes answering the questions in this booklet.

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QUESTION ONE

(a) Sione works at a petrol station after school.

This week his pay rate has increased from $11.20 per hour to $12.10 per hour.

Calculate the percentage increase in his pay rate.

Percentage increase: _____ %

(b) Sione has two savings accounts.

One is for his university fees and the other is for his holiday.

He divides the money between the university fees account and the holiday account in the ratio 5:2.

Last week Sione banked $95 in his university fees account.

Calculate the amount he banked in his holiday account.

Amount banked in his holiday account: $ _____

(c) Last year the Inland Revenue Department paid out a total of $\$1.1382 \times 10^9$ in refunds to taxpayers.

The average amount refunded was $542 per taxpayer.

Calculate the number of taxpayers who got refunds.

Number of taxpayers: _____

(d) When he retires, Sione wants an income of $580 per week (after tax) from the interest on his bank accounts.

Sione's interest will be taxed at 20 cents in the dollar.

Sione estimates the interest rate will be 6.5% per year when he retires.

The interest on his invested bank accounts would be his only income.

Calculate how much Sione needs to save before he can retire.

Set your work out clearly, showing what is being calculated at each step and explain any decisions you make.

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Amount Sione needs to save: $ _____

QUESTION TWO

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(a) Tara earns $492 (after tax) in the school holidays.

She spends $\frac{1}{3}$ of the money she earns on accessories for her car.

She spends $\frac{1}{5}$ of the money she earns on entertainment and she banks the rest.

Calculate how much money she banks.

Amount she banks: $ _____

(b) Tara puts $600 in a bank account.

The bank pays 4.3% interest per year, which is paid at the end of each year.

(i) Calculate how much interest the $600 will earn in one year.

Interest: $ _____

(ii) Tara leaves the $600 in the bank account.

At the end of each year she puts the interest into same account. She does this for 3 years.

Write an expression for the total amount in her bank account at the end of 3 years, and use this to calculate the total amount in her account at the end of 3 years.

Total value: $ _____

(iii) Tara's sister invests her money at the same interest rate of 4.3%.
She also adds the interest to the account at the end of each year.
After 5 years, the total value of her investment is $1 357.73.

Calculate the amount of her original investment.

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Original investment: $ _____

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

Assessor's use only

Question number

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