For Supervisor's use only

90151





Level 1 Mathematics, 2005

90151 Solve straightforward number problems in context

Credits: Three 9.30 am Monday 21 November 2005

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 guestions 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 2–7 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.

For Assessor's 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.

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AT SCHOOL

You should show **ALL** working.

QUESTION ONE

This table shows the numbers of boys, girls and the total number of students in each year level at Bayview College in 2005.

Student Numbers at Bayview College	Year 9	Year 10	Year 11	Year 12	Year 13	
Boys	110	120	115	70		
Girls	120	135	125	75		
Totals	230	255	240	145	80	950

In Year 13, the ratio of boys:girls is 2:3.
Calculate the number of boys and the number of girls in Year 13 at Bayview College in 2005
Number of Boys = Number of Girls =
In Year 11, $\frac{1}{5}$ of the students walk to school, $\frac{1}{4}$ catch the bus, and the rest cycle to school.
How many of the Year 11 students cycle to school?
Number of Year 11 who cycle =
One day, 52 students are absent from school.
What percentage of the students are absent that day?
and Parameter and an analysis

Percentage of students absent =

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(d) In 20	In 2006, the number of students at Bayview College is predicted to be 9% more than 2005.					
Calcu	ulate this predicted number of students at Bayview College, for 2006.					
	Number of students for 2006 =					
QUESTIO	N TWO					
	ere are 240 students in Year 11 at Bayview College. 2% increase over 2004.					
How many	students were in Year 11 at Bayview College in 2004?					
	Number of students at Bayview College in 2004 =					
QUESTIO	N THREE					
	14700 Year 11 students sitting these NCEA examinations. use 5.811×10^6 sheets of A4 paper.					
On average	e, how many sheets of A4 paper per student, does this represent?					
	Number of sheets of paper =					

QUESTION FOUR

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The table shows student numbers for this year at Seaview College.

Student Numbers at Seaview College

Year Level	Year 9	Year 10	Year 11	Year 12	Year 13	Total
Roll Numbers	240	280	310	230	125	1185

In 2006, at Seaview College, the Years 9 and 10 roll is expected to increase by \(\frac{1}{4} \).

The Years 11 and 12 roll is expected to drop by 10%.

Fifteen fewer students are expected in Year 13.

Calculate the percentage change in the total roll at Seaview College from 2005 to 2006.

Percentage change = _____

Mathematics 90151, 2005

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QUESTION FIVE

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Just over 5 years ago, Seaview College invested \$250000 it had raised, at a yearly interest rate of 8.75%, paid at the end of each year.

The money and interest were re-invested each year.

The government gives a 2 for 3 subsidy on money raised, ie the government will give \$2 for every \$3 the school raises.

The money is for extensions to the school gymnasium.

The extensions will cost three-quarters of a million dollars including GST (at 12.5%).

The building company involved will help the school by paying all the GST.

Will the school's investment, plus interest, plus the subsidy, be enough to pay for the cost of the extensions?

Show all your working. State what you are calculating at each step.				

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

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Question number	

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

Asse	ssor's
use	only

Question number	