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| **NAME:** | **TEACHER:** |

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**YEAR 10 MATHEMATICS**

**2014 END OF YEAR EXAM**

## Number

**Answer ALL questions in the spaces provided in this booklet. Show ALL working.**

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| **For Assessor’s use only** |
| **Curriculum Level** |

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**SKILLS QUESTIONS**

**QUESTION ONE**

Samantha’s baby sister goes through 50 nappies per week. She mostly has cloth nappies but 1/5 of the nappies she uses are disposables.

1. How many disaposable nappies does she use per week?

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1. What percentage of the time does she wear disposables?

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1. If a box of 90 disposable nappies costs $45, what is the weekly cost for the disposable nappies for Samantha’s sister?

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**QUESTION TWO**

In 2011, 43138 gWh (gigawatt hours) of electricity was produced in New Zealand. 77% of this came from renewable sources.

1. How much of New Zealand’s electricity was generated from renewable sources in 2011?

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1. 17625 gWh was produced in the South Island that year. What percentage of New Zealand’s electricity was generated in the South Island in 2011?

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**QUESTION THREE**

Huia’s family have solar panels and a small wind turbine at their house, generating electricity. If they use too much, they buy electricity from a power company. If they produce more than they use, the power company pays them for it.

In 2012, the power systems at Huia’s house generated 10472 kWh of power. The family used 9782 kWh that year.

1. Write an integer to show how much electricity they had to buy from the power company in 2012.

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1. In 2013 the family generated 380 kwH less electricity than in 2012 but used 390 kwH more. Calculate how much electricity they would need to buy from the power company in 2013.

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**QUESTION FOUR**

In 2011, 1950 gWh of electricity were generated from wind energy.

1. In 2008, only 1058 gWh were generated from wind. What is the **percentage increase** in wind generation from 2008 to 2011?

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1. The 2011 figure is a 17% increase on the previous year’s output. How much “wind power” was generated in 2010?

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**QUESTION FIVE**

About 365 kg paper can be made from a single tree. A ream (500 sheets) of paper weighs about 2.3 kg.

1. How many sheets of paper can a single tree be made into?

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1. A school uses 12500 less sheets of paper than usual one year by reusing any paper that is only printed on one side.
2. If a ream of paper costs $8, how much money will this approach save?

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1. What is the weight of the paper the school saved?

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1. How many trees would this save?

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1. The $8 cost of a ream of paper includes GST of 15%. How much of the price is the GST?

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