**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 1**

Solve the following:

Gemma’s friend, Kevin, is a web designer. He earns $70 per hour and spends $25 per day travelling to his place of work.

1. Express Kevin’s earnings per day as an algebraic expression.
2. Identify the variable, constant and coefficient in the algebraic expression.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 2**

Identify the like terms in **each** of the following expressions.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 3**

Simplify the following expressions.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 4**

Simplify the following algebraic expression.



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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 5**

Solve the following linear equations.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 6**

Using the elimination method solve the following equation by eliminating  rather than .





*Hint: you will need to manoeuvre* *both equations.*

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 7**

Find the values of  and  in the following equations.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 8**

Using the substitution method solve Marie’s first set of simultaneous equations.



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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 9**

Using the substitution method find the price of an adult’s meal and a child’s meal.



Where,





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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 10**

Solve the following quadratic equations.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 11**

Asha has decided to construct a garden that is square shaped. Calculate the length of the garden if the area of the garden is 60 square feet.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 12**

Solve the following quadratic equations.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 13**

Given equation 

1. Plot the graph for the equation.
2. What is the shape of the graph?

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 14**

Find the gradient and y-intercept in each equation.

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 15**

Derive the equation of the straight line for each of the following.

1. Gradient =  andy**–**intercept = **–5**
2.  and 

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**ELEMENT 2: ALGEBRAIC METHODS**

**Learning Outcome 2: ACTIVITY 16**

Derive the equation of the line which:

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| which passes through (2, 3) and has a gradient of -3 |  |
| which passes through (1, 6) and (–2, 0) |  |
| which passes through (1, –1) and has a gradient of –1 |  |
| which passes through (–2, 3) and (4, 0) |  |

Write down the y-intercept in each case?