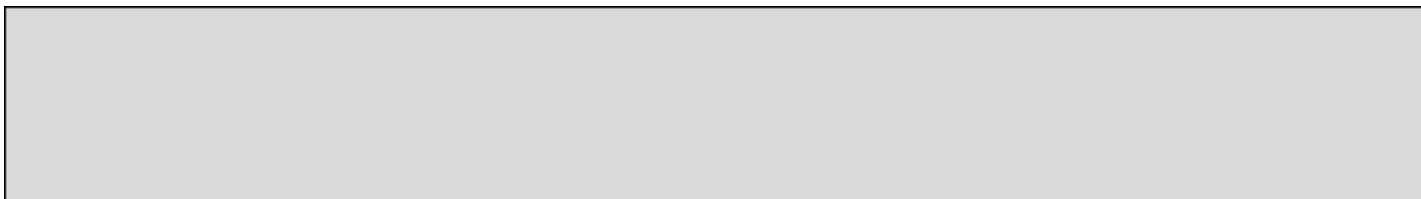


|              |                 |
|--------------|-----------------|
| <b>NAME:</b> | <b>TEACHER:</b> |
|--------------|-----------------|

**DATE:**

Mission Heights Junior College



**AS 91026 (V3)**

Apply numeric reasoning in solving problems

**Garden Glory**

**Credits: 4**

You should answer ALL questions fully showing all steps and decisions taken.

| <b>Achievement</b>   | <b>Achievement with Merit</b>  | <b>Achievement with Excellence</b>  |
|--|--|---|
| Apply numeric reasoning in solving problems.<br><input type="checkbox"/> | Apply numeric reasoning, using relational thinking, in solving problems.<br><input type="checkbox"/> | Apply numeric reasoning, using extended abstract thinking, in solving problems.<br><input type="checkbox"/> |
| Overall level of performance   |  | <input type="checkbox"/>  |

# Garden Glory

Mathematics and Statistics AS90126

Credits: 4

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## Student instructions sheet

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Mission Heights Junior College is looking to refurbish some of the gardens on site and is looking to three options. Mr Naidoo did some research on costing and came up with the following findings.

### Option 1:

*Flower Power*, a small local New Zealand business, offers a variety of different flowers, shrubs and trees and most plants are currently on sale as seen on their website.

| Flowers                 | Shrubs                   | Trees                    |
|-------------------------|--------------------------|--------------------------|
| 17% off                 | 13% discount             | 1/9th discount           |
| Regular Price \$3.75NZD | Regular Price \$11.50NZD | Regular Price \$15.90NZD |

All prices include GST

### Option 2:

*Flower Power* has alternately offered the school 1/6th off the total price instead of the above discounts.

### Option 3:

*Green Garden*, an Australian company that has branches in Auckland, also offers a wide variety of flowers, shrubs and trees as seen below.

| Flowers                         | Shrubs                          | Trees                            |
|---------------------------------|---------------------------------|----------------------------------|
| Regular Price \$2.00AUD<br>+GST | Regular Price \$8.30AUD<br>+GST | Regular Price \$11.40AUD<br>+GST |

Exchange rate: \$1NZD = \$0.93AUD

GST is 15%

The school wants to plant flowers, shrubs and trees in a ratio of 8:5:3.

The school is willing to spend a maximum of \$450.00NZD for the plants and is looking to buy at least 60 plants for the gardens.

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### **Task**

Your task is to devise a strategy to investigate the Schools's options and to give a recommendation on which company the School should choose and why based on the School's criteria.

Justify your answer, and discuss any assumptions you have made.

The quality of your discussions and reasoning, in particular with respect to any decisions and assumptions that you make will determine your overall grade. Students aiming for Excellence will need to show extended abstract thinking skills. Don't be afraid to extend the question beyond the problem stated here and include other factors involved in the project, but not stated on this assessment which could affect the company selected by the school.