

PLANNING A TRIP

Background: *The Cruises' usually tend to their lawn themselves. However, during their holiday they plan to engage either the Green Grass Company or the Careful Cutters Company because they have noticed both of these companies in their neighbourhood.*

You will have 10 minutes group time to discuss the problem and then you will write your report individually to be handed in by the end of the period.

PHASE 2: Lawn Care

Penelope researched this information for you to use.

A: When she called the Green Grass Company for a price they quoted:

\$90 start up fee plus \$20 per hour for lawn care

B: She tried to call Careful Cutters several times but only managed to leave messages on the answering machine, unfortunately no one called back. However, their neighbours said that Careful Cutters was a good deal. One neighbour said that they worked for them for 22 hours and charged \$575 and the second neighbour said that Careful Cutters provided 11 hours work on their lawn and charged \$300.

Model:

1. Create a graphical model showing the number of hours and the cost of the two companies on the same grid. Use a different colour for each graph and label clearly.
2. Create an algebraic model for the fee structures of each company using h as the number of hours and C as the cost of service.
 - Assume that Careful Cutters has a start up fee.
 - Penelope thinks that it will take the lawn companies about 3 hours per week for the company they choose to take care of their lawn

Manipulate:

3. Use the models you have created to answer the following questions, with justification.

Which company should the Cruises' use if they are on vacation for:

- a) 3 weeks? b) 6 weeks? c) 9 weeks?

Conclude:

4. Which company offers the better deal? Explain your reasoning.
5. Draw up an advertisement for the Careful Cutters Company so that customers will want to use them. Provide details about the start up cost and the cost per hour in your ad.

	Level 1	Level 2	Level 3	Level 4
Thinking, Inquiry, Problem Solving	-created models with errors or omissions	-created appropriate models with some errors or omissions	-created appropriate models with few errors	-created appropriate models accurately
Communication	-explains findings using some terminology and partial justification	-explains findings using some terminology and justification	-explains findings using appropriate terminology and justification	-explains findings using appropriate terminology, justification and insight