

PLANNING A TRIP

Introduction: Mr. and Mrs. Cruise and their 2 children Tom and Penelope are planning on taking an extended holiday of from 4 to 10 weeks, a year from now. They want to drive their van from Newmarket to Vancouver, visiting many points of interest on the way. The Cruises know that they have to budget and save all year to afford this trip. You will be provided with details and your job is to analyze these to help the Cruise's plan their budget. For each phase 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 1: Kennel Costs

The Cruise's need to board their cat Buoy while they are away on their vacation. Your job is to research the fee structure of the local kennels and advise the Cruises what they should do. Tom clipped these adds from the paper for you to use.

**Cozy Kennel for
Dogs and Cats**

- * Individual Pens
- * Top quality food
- * Individual attention daily

**Only \$10/day for small dogs and cats;
\$15/day for midsize to large dogs**

FELINE HOLIDAYS

Let us pamper your cat while you are away!

\$15 fixed fee includes welcome nail clipping and combing.
\$9/day for all the food and attention your cat needs

Pet Paradise

Board your dog or cat here, they will love it!

Just \$8/day, plus \$50 up front for regular grooming during your pet's stay.

Model:

1. Create a graphical model showing the number of weeks vs the cost on one grid for each of the kennels. Use a different colour for each graph and label clearly.
2. Create an algebraic model for the fee structures for each of the kennels. Use n to represent the number of weeks and C to represent the cost.

Manipulate:

3. Use the graphical models and/or the algebraic models to answer the following questions, with justification:
 - a) Which kennel should the Cruise's use if they plan a vacation for 4 weeks?
 - b) Which kennel should the Cruise's use if they plan a vacation for 5 weeks?
 - c) Which kennel should the Cruise's use if they plan a vacation for 7 weeks?
4. Later Tom noticed an add in the Liberal advertising for a new kennel in Newmarket. It charges a \$5 for an initial fee that includes a flea check plus \$10/day. Explain to Tom why he should reject this model without creating a graphical or an algebraic model for computing the costs.

	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	-communicates findings using some terminology and partial justification	-communicates findings using some terminology and justification	-communicates findings using appropriate terminology and justification	-communicates findings using appropriate terminology, justification and insight