**Planning a Ski Trip**

The Grade 8 students are planning a ski trip to Jasper. An organizing committee has been formed to research the trip.

**Part 1**

Two local bus companies, Alta North and Greyhound offer packages for school trips.

The amount each company charges is given by these equations:

Alta North: C= $300 + 55n

Greyhound : C= $100 + 75n

Where n is the number of people on the bus and C is the total cost in dollars.

Suppose 85 students and 10 adults go on the trip. Which company should the committee choose?

What strategy did you use to find out?

Justify your answer.

**Part 2**

The daily cost per person for ski rental is $23.

On one day the total cost of ski rental was $851.

Write an equation you can use to find out how many students rented skis that day.

Solve the equation. Verify the solution.

**Part 3**

When you are skiing you must be aware of extreme temperatures. Jasper Mountain has an elevation of about 2250 m.

An equation for calculating the temperature at this elevation is:

T= C- 15, where c is the temperature in degrees Celsius at sea level and T is the temperature at an elevation of 2250m

1. Suppose the temperature at sea level is 0 degrees Celsius. What is the temperature at the peak of the Mountain?
2. Suppose the temperature at the peak of the mountain is -23C. What is the temperature at sea level?

**Part 4**

The Hotel in Jasper is offering a group discount. It charges a daily rate of $1500, plus $30 per person.

1. Write an equation for this relation.
2. Create a table of values for this relation.   
   Use p = 0,10,20,30,40,50,60,70,80,90,100
3. Graph the relation.
4. Describe the relationship between the variables in the graph.
5. Use the graph to find the total cost of the hotel when 95 people go on the trip.
6. What does each person have to pay for the hotel?
7. How did you find out?

**Conclusive Report of the Ski Trip:**

You can present your report however you like; you just have to make sure you have included everything from the checklist:

* An accurate graph and all calculations in detail. /10
* Your understanding of linear equations and linear relations /10
* The strategies you use to solve the problems /10
* A clear explanation of the thinking behind your solution /10

**Reminder: to get the most possible marks show all your work!**

Total Marks /50