Name: _____ Date: _____

BLM MS–6

Rounding, Estimating, and Using Your Calculator

A calculator is a very important tool in mathematical problem solving. However, it cannot do all of the work for you. Numbers and operations need to be input and interpreted correctly. Also, you must make sure you are using the correct units of measure.

Before Calculating

- Take time to predict what the answer could be. Use your estimation skills to determine an approximate answer. These skills depend on your ability to round numbers.
- Take care to identify the steps needed to perform the operations:
  - Are brackets needed?
  - Does the calculator perform order of operations, or do you need to input the numbers with order of operation in mind?
  - How do you use the memory keys on the calculator so that you are not writing down numbers after each step and increasing the potential for errors?

After Calculating

- Is the answer on the calculator screen reasonable, considering the problem being solved?
- To how many decimal places should you round your answer?
- Are you using the correct unit of measure in your answer?

Questions

Use your calculator to solve the following questions.

1. You are purchasing a new car for $18 500. You are getting all of the optional extras for this car, which have the following costs:
$125.99 $435.95 $287.95 $73.99 $24.99
You are also getting the extended service warranty, which costs 1% of the purchase price before extras and taxes. Taxes are 13% of the total purchase price. The license costs $75.00.

a) Estimate the total cost of the purchase.

b) What is the actual total cost of the car? How accurate was your estimate?

> Remember to check that your estimate makes sense.

2. A surveyor is determining the height of a mountain using a transit. She takes two angle measurements. The angle of elevation to the top of the mountain when standing 1900 m from its base is 37.5°. The angle of elevation to the top of the mountain from its base is 51.3°.

a) Sketch this scenario. Compare your sketch with another student's.

b) Calculate the height of the mountain.

> Remember to check
> - that your answer makes sense
> - that you have rounded to the correct number of decimal places
> - that you have used the correct units

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