Name: _____ Date: _____

Chapter 4 Gifted and Enrichment

1. Do the two calculations have the same result? If not, which is greater? Show your work.

a) 10% of 0.01 and 0.01% of 10

b) 120% of 0.1% and 0.1% of 120%

c) $\frac{1}{5}$ of 0.2% and $\frac{1}{2}$% of 5

2. A salesperson achieves 110% of her previous year's sales each year. Assume this continues. Show how many years it will take her to double her sales.

3. The abbreviation ppm means part(s) per million.

1 ppm = $\frac{1}{1000000}$

Explain what a change from 1 ppm to 2 ppm is as a percent.

4. A broken tail assembly of a car is to be replaced. One supplier sells the assembly retail for $85.99 with a 30% discount. Another supplier sells the assembly wholesale for $38.69 plus a 35% markup. Show which is the better buy.

5. A 250-g jar of chocolate spread sells for $2.59. A special offer of a larger jar of the same spread is labelled 30% more for the same price as 250 g. Clara says, "This is 95 g more for the same price." Yvonne says, "This is a 78¢ savings." Prove or disprove each statement.

6. Two partners have real estate worth $240 000 and other assets worth $100 000. They are dissolving their partnership and will share the combined worth equally. One partner receives $75 000 of the other assets. What percent of the real estate will the other partner receive?

7. Simple interest, I, is paid according to the formula $I = prt$, where p is the principal or money borrowed, r is the rate of interest per year, and t is the time in years. A builder borrows a total of $250 000. He borrows 40% of the money at the beginning of a project, another 40% after 2 months, and the final 20% after another 2 months. After another 2 months, he sells the building and repays the loan at a rate of simple interest of 5% per year. How much interest does he pay?