

**GRADE 12 ESSENTIAL**  
**UNIT B – VEHICLE FINANCE**  
**FUEL CONSUMPTION AND MAINTENANCE**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Show work**

Assume that PST (8%) and GST (5%) are applied to all services and goods. The price of fuel however has all the taxes included already.

1. The odometer of a mid-size car reads 34 719 at the beginning of a trip and 34 853 at the end of the trip. The car consumes 12.4L of gasoline during the trip.
  - a. Determine the fuel economy of the sedan.
  - b. If the cost of gasoline is \$1.099 per litre, find the cost of driving 100 km.
  
2. The fuel economy of a two-door convertible is 8.5L/100 km.
  - a. How many litres of gasoline are required to drive 20 000 km?
  - b. If the cost of gasoline averages \$1.159 per litre, find the cost of driving the convertible 20 000km.

3. Find the total cost of servicing a vehicle that requires two headlights at \$38.50 each, an exhaust pipe at \$165 and a muffler and tail pipe at \$105.50. The time required to service the vehicle is 1 hour 45 minutes and the rate the service station charges for labour is \$78 per hour.

4. ~~A minivan sells for \$34 200 and leases for \$348 plus taxes per month for a lease term of 24 months. A down payment of \$3500 is required. The residual value of the minivan is 65% of the selling price and the minivan depreciates at a rate of 20% per year (exponential decay in value).~~

~~a. Calculate the value of the depreciated minivan after two years.~~

~~b. How does the depreciated value of the minivan after two years compare to the dealer's residual value at the end of the lease?~~

5. Kennedy purchases a used sports car for \$12 500 on December 31, 2009. During the year 2010, he drives 15 000 kilometres. The fuel consumption of the sports car is 8.9L/100km and his average cost of gasoline during the year is \$1.09 per litre. The rate of depreciation is 15% per year (Exponential decay) .

- a. Calculate the cost of his gasoline expenses for the year 2010.
- b. Calculate the value of the sports car on December 31, 2012.

6. Use the “Insurance Rate Calculator” at [http://apps.mpi.mb.ca/Irc/intro\\_2.asp](http://apps.mpi.mb.ca/Irc/intro_2.asp) of the Manitoba Public Insurance (MPIC) website to obtain an estimate for the following situation.

Jodie, who lives in Swan River, Manitoba has postal code R0L 1Z0. She owns a 2007, Honda Odyssey EX. She does not drive to or from Winnipeg for work and uses her vehicle only for pleasure use and she receives a 20% discount from Autopac. Jodie chooses a \$200 deductible with \$2 000 000 of third person liability coverage. She also decides to get the optional auto loss of use coverage with a daily limit of \$68.00 per day. She does not get the new car coverage and the car is not worth more than \$50 000. She chooses monthly (12 pre-authorized) payments.

- a. What is her monthly payment?
- b. How much less is her monthly payment if she decides not to get the optional auto loss of use coverage with a daily limit of \$68.00 per day?
- c. Do you think this extra coverage is worth the cost?