GRADE 12 ESSENTIAL
UNIT B – VEHICLE FINANCE
FUEL CONSUMPTION WORKSHEET
adapted from Manitoba Education resources

Name:_____
Date: _____

1. Determine the fuel consumption of various vehicles for each of the following trips using the odometer readings. Round final answers to nearest 0.1. [normally I ask for a bit more accuracy you can't get more accuracy than your instruments say!]

Vehicle	Initial odometer reading (km)	Final odometer reading (km)	Distance travelled (km)	Amount of fuel used (L)	Fuel consumption (L/100 km)
A	71 416.0	71 739.0		26.2	
B	481 758.4	482 943.0		54.9	
C	23 165.2	23 721.9		70.7	

SHOW WORK:

A. $71{,}739.0 - 71{,}416.0 = 323.0$ km $\quad \frac{26.2\text{ L}}{323\text{ km}} = \frac{x}{100\text{ km}}$; $x = 8.11$

$\therefore$ Fuel consumption = 8.11 L/100 km

	Initial	Final		Fuel used [L]	
D	135 714.8	136 028.3		43.1	
E	87 158.1	88 031.4		68.9	
F	15 632.1	16 341.8		87.3	

SHOW WORK:

2. a) While on vacation in Montreal, Susan plans to rent a vehicle and expects to drive **800 km in the city** and **1000 km on the highway**. The table below shows the different rental vehicles available. If fuel costs *$1.689* a litre, calculate the total fuel cost for each rental vehicle available. BTW, fuel prices are the posted prices at the pump which includes taxes (*lots* of different taxes)

DO your calculations on separate scrap paper if necessary and just record the result in the table

Vehicle type		Sub-compact vehicle	Compact vehicle	Sport utility vehicle (SUV)	Truck	Van	Hybrid vehicle
Fuel consumption (L/100 km)	Highway	5.9	5.7	9.6	9.3	9.4	4.4
	City	7.9	8.1	12.7	12.3	13.7	4.6
Amount of fuel used in the city (L)		$\frac{7.9\text{L}}{100\text{km}} \cdot 800\text{km} = 63.2\text{L}$					
Amount of fuel used on the highway (L)		$\frac{5.9\text{L}}{100\text{km}} \cdot 1000\text{km} = 59.0\text{L}$					
Total amount of fuel used (L)		$63.2 + 59.0 = 122.2\text{L}$					
Total cost ($)		$122\text{L} \cdot \frac{\$1.689}{1\text{L}} = \$206.40$					

b) Based on your calculations, explain which vehicle is more fuel efficient.

3. a) Determine the maximum number of **highway** kilometres that each vehicle can travel without stopping for gas, and the cost of a fill-up using *$1.689* a litre.

Vehicle type		Sub-compact vehicle	Compact vehicle	Sport utility vehicle (SUV)	Truck	Van	Hybrid vehicle
Fuel consumption (L/100 km)	Highway	5.9	5.7	9.6	9.3	9.4	4.4
	City	~~7.9~~	8.1	12.7	12.3	13.7	4.6
Fuel tank size		40 L	64	93	87	76	43
Maximum distance (km)		$40\,L \cdot \frac{100\,km}{5.9\,L} = 678.0\,km$					
Cost of fill-up ($)		$40\,L \cdot \frac{\$1.689}{1\,L} = \$67.56$					

SHOW YOUR WORK BELOW:

b) **Explain** in words how these calculations can influence your choice of vehicle. **Justify** your answer with a positive and a negative decision for two different vehicle types. Assume you drive the normal 25,000 km per year.

c) What would you budget for in your monthly budget for your fuel costs? [How many dollars per month?]