Lesson 2 Fuel Economy

Wednesday, September 28, 2022 2:22 PM

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Another major cost associated with owning a vehicle is the cost of fuel to operate the vehicle. Many people will consider the fuel economy of a vehicle before purchasing a new or used vehicle. Vehicles with a lower fuel economy are often more desirable because they use less fuel to travel the same distance.

Fuel economy is the number of litres of fuel used to travel 100 km.

$$\text{Fuel Economy (FE)} = \frac{\text{Fuel used in litres}}{\text{Distance in km}} \times 100$$

(in L/100km)

Example 1

A vehicle's trip metre shows it has travelled 612 km. If the vehicle used 58 L of gas for this trip, determine the fuel economy of this vehicle.

$$FE = \frac{58}{612} \times 100$$

$$= 9.5 \text{ L/100km}$$

$$\text{Litres used} = \frac{\text{Fuel economy } x \text{ distance}}{100}$$

← study sheet

Example 2

Jake's van has a fuel economy of 11.2 L/100 km. Determine the number of litres of fuel Jake will use if he travels a distance of 1235 km.

$$\text{Litres} = \frac{11.2 \times 1235}{100}$$

$$= 138.32 \text{ L}$$

Example 3

A car with a full tank of gas travelled 482 km before stopping at a gas station. The car required 38.7 litres to fill the tank.

* current price of gas
185.9 ¢/litre

$\frac{185.9}{100} = \$1.859/\ell$

a.) Determine the cost of fuel.

Cost = # of litres × price/litre

= 38.7 × 1.859

= $71.94

b.) Determine the fuel economy of this vehicle.

$$FE = \frac{\text{litres}}{\text{km}} \times 100$$

$$= \frac{38.7}{482} \times 100$$

$$= 8 \text{ L}/100 \text{ km}$$

Example 4

Blake travelled a total of 350 km in the city and 200 km on the highway last week. His car has a fuel economy of 10.5 L/100 km in the city and 7.4 L/100 km on the highway.

a.) Determine how many litres of gas Blake's vehicle used last week.

City

$L = \frac{FE \times distance}{100}$

$= \frac{10.5 \times 350}{100}$

$= 36.75\ L$

Hwy

$L = \frac{7.4 \times 200}{100}$

$= 14.8\ L$

* Have to be calculated separately

Total = 36.75 + 14.8

= 51.55 L

b.) Determine how much Blake spent on gas last week.

51.55×1.859

$95.83