Before we begin, are there any questions from last day's work?

(9.4_9.5 Vehicle Costs: Depreciation)

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Today's Learning Goal(s):

By the end of the class, I will be able to:

a) use a proportion to calculate the unknown volume of gas used.
b) calculate the monthly cost of owning a car.

p. 495 #11

Cost = $24 500 depreciates 21% / year

1 Year Depreciation
= 0.21 x 24 500
= 5145

Value After 1 = 24500 - 5145
= 19 355

Value Kept$_1$ = 0.79 x 24500
= 19355

Value Kept$_2$ = 0.79^2 x 24500
= 15290.45

Value Kept$_5$ = 0.79^5 x 24 500
≈ 7538.79

MBF 3CI

(9.4_9.5) Vehicle Costs: Fuel Costs

Date: Dec. 20/16

Ex. 1

Mr. Lowe drove 781 km (1 way) to visit his parents. The fuel consumption rate for his van is 8.3 L per 100 km. If gas is sold for $1.17 / L, calculate the total fuel cost for the trip.

Solution: Let **g** represent the volume of gasoline needed in L.

$\left(\frac{L}{km}\right)\ \frac{g}{781} = \frac{8.3}{100}$

$g = 781 \times \frac{8.3}{100}$

$\approx 64.823\ L$

$\text{Total trip} = 2 \times 64.823$

≈ 129.646

$\approx 130\ L$

Part 2

Let **c** represent the **cost** of gasoline, in dollars.

$C \doteq \$1.17/L \times 130L$

$\doteq \$152.10$

the total fuel cost for the trip is $152.10

Ans: $152.10

Ex. 2
Karen bought a new car for $15 945 one year ago.
She got a 4 year car loan at prime (3% interest), so her monthly payments are $353.
[FYI: After 4 years, she will have paid $9.08 in interest, called the "total cost of borrowing"]
Over the year, she drove 11 800 km, and paid an average of $1.22 / L for fuel.
The fuel consumption rate for her car is 6.3 L per 100 km.

a) Calculate her fuel cost for the first year.

Solution: Let **g** represent the gasoline used, in L.

$\left(\frac{L}{km}\right)$ $\frac{g}{11\,800} = \frac{6.3}{100}$

$g = 11800 \times \frac{6.3}{100}$

$= 743.4\,L$

Cost = $1.22 x 743.4

$= 906.948$

$= \$906.95$

Ans: $906.95

b) Calculate her average monthly car expenses (not including car insurance). (btw: car ins. min. $250/month)

Car expenses = $\$75.58 + \$353$

$= \$428.58$

Fuel Costs/month = $906.95 \div 12$

$= 75.579$

$= \$75.58$

her average monthly car expenses are: $428.58

Ans: $428.58

c) If the car depreciates 26% during its first year, what is the value of her car today?

Depreciation = 0.26×15945

$= 4145.70$

Value after 1 year = $15945 - 4145.70$

$= 11\,799.30$

Ans: $11 799.30

(btw: Consider Buying a used 2-3 year old car instead)

Entertainment: p. 493#3 (use $1 per 1L of gas), 4, 5
CHALLENGE: p. 495 #14
(and Compound Interest Review sheet #1-12)

2015 Nissan Versa $12 595

2015 Chevrolet Spark $13 310

2015 Kia Rio LX $14 815

2015 Mitsubishi Lancer ES $13 320

2015 Ford Fiesta S $14 885