Consumer Math
Notes 9.1-2

Name $\qquad$
Hour $\qquad$

## Purchasing a New Vehicle/ Dealer's Cost

A vehicle's $\qquad$ shows all charges for the vehicle.

- ___ the price of he vehicle's engine, chassis and any other standard equipment for the particular model
- ___ extra equipment on a vehicle not included in the base price such as sunroof, tinted glass, upgraded sound system, etc.
- $\qquad$ $=$ the cost of shipping the vehicle from the factory to the dealer
$\square$

Ex1: Lisa and Thomas are buying a new minivan that has a base price of $\$ 24,060$. The options total $\$ 2,410.80$ and the destination charge is $\$ 221.80$. The dealer's cost is estimated to be $91 \%$ of the base price and $88 \%$ of the price of the options.
A) What is the sticker price of the car?
B) What is the estimated dealer cost?

Ex2: Kim is buying a sedan that has a base price of $\$ 24,827$. She selects all of the following options: sunroof - $\$ 428$, cruise control - $\$ 274$, trunk cargo net - $\$ 30$ and 6 -disc changer upgrade to stereo system - $\$ 510$. The destination charge is $\$ 270$. The dealer's cost is $90 \%$ of the base price and $85 \%$ of the options.
A) What is the total for the options Kim has selected?
B) What is the sticker price of the car?
C) What is the estimated dealer's cost?
D) What will Lee pay if he can buy the vehicle for $\$ 200$ over the dealer cost?
$\qquad$
$\qquad$
: protection for almost anything that might happen unexpectedly or accidentally and is a way for planning for the unknown

- provides a sense of security that one won't lose everything in case of an accident
funds is available for losses individuals might experience


## Types of Automobile Insurance

- Covers costs resulting from bodily injury and property damage to others
- Pays if your car kills or injures someone else (bodily injury)
- Protects you whether you are driving or someone else is driving your car
- Protects you when you are driving someone else's car with their permission
- Covers costs of lawsuits including lawyer's fees
- Does not cover damage to your own car
- Is required for drivers in most states
- Liability coverage is reported like this:

- Pays for damages to your car resulting from a collision with another car or if you run into an object
- Is required if you are making car payments
- Does not cover damage resulting from a collision with another car
- Pays for damages to your car caused by theft, vandalism, fire or if an animal runs into your car
- Is required if you are making car payments
- Covers injuries you suffer while riding in your car or in someone else's car.
- Covers your passengers if you were at fault in an accident
- Covers your injuries if a car hits you while you are walking
- Covers you if you are injured by a hit and run or uninsured driver
- Covers guests in your car
- Is considered to be important coverage because an estimated $25 \%$ to $30 \%$ of drivers do not carry insurance
- Covers the part or all of the cost of renting when your car is in he shop for a covered loss
- Covers the cost to tow your car to a shop when your car breaks down. The insurance pays for the car to be towed to a nearby shop, not necessarily the shop that is most convenient for you.
- covers the difference between the cash value of a car and the balance still owed on the auto loan in the event that your car if it is totaled and you owe more than what your car is worth


## Insurance Rates are based on the following:



Male drivers pay the highest rates because insurance companies indicate that men have a higher chance of experiencing a loss
$\qquad$ If you have received several tickets or have been in a variety of accidents, you will pay higher rates because you are a higher risk
$\qquad$ High performance, luxury, frequently stolen vehicles and motorcycles are the most expensive to insure due to higher risks associated with vehicle
$\qquad$ The more a car is driven more likely an accident will occur
Married rates are often lower than single rates b/c marriage may be seen as an indicator of stronger financial stability in household
$\qquad$ Discount may be given for students who carry a 3.0 or higher

- $\qquad$
- $\qquad$ If you live in an area that has more accidents or losses, insurance rates will be higher


## How Insurance works:

An insurance company collects a $\qquad$ = a yearly fee paid for a policy and is based on the type of coverage for each type of insurance

- Policy summarizes different types of coverage that have been purchased
- Collects premiums from each policyholder and accumulates them into a fund
- Insurance company pays for losses out of this fund
- Most types of insurance require the insured to pay a $\qquad$ = a set amount of money paid by insured before the insurance company pays anything


| Age <br> Group | $1-5$ | Insurance Rating Group |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
|  | Comprehensive $\$ 50$ deductible |  |  |  |  |  |  |
|  | $\$ 12.80$ | $\$ 15.60$ | $\$ 19.65$ | $\$ 26.40$ | $\$ 39.20$ | $\$ 52.00$ |  |
| B | 10.80 | 13.20 | 16.80 | 22.40 | 33.20 | 44.40 |  |
| C | 9.60 | 11.60 | 14.80 | 20.00 | 29.60 | 39.30 |  |
| D | 8.40 | 10.00 | 12.80 | 17.20 | 25.60 | 34.00 |  |
|  | Collision $\$ 100$ deductible |  |  |  |  |  |  |
| A | $\$ 74.00$ | $\$ 83.20$ | $\$ 92.40$ | $\$ 106.30$ | $\$ 124.80$ | $\$ 143.20$ |  |
| B | 62.80 | 70.80 | 78.40 | 90.40 | 106.00 | 121.60 |  |
| C | 55.60 | 62.40 | 69.20 | 80.00 | 93.60 | 109.60 |  |
| D | 44.40 | 50.00 | 55.60 | 64.00 | 76.80 | 86.00 |  |


| Property | Bodily Injury Limits |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Damage <br> Limits | $15 / 30$ | $25 / 100$ | $50 / 100$ | $100 / 300$ |
| $\$ 10,000$ | $\$ 93.20$ | $\$ 104.00$ | $\$ 109.20$ | $\$ 120.00$ |
| $\$ 25,000$ | $\$ 97.20$ | $\$ 108.00$ | $\$ 113.20$ | $\$ 124.00$ |
| $\$ 50,000$ | $\$ 100.00$ | $\$ 111.20$ | $\$ 116.00$ | $\$ 127.20$ |


| Coverage | Age Group | Insurance Rating Group |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1-5 | 6 | 7 | 8 | 9 | 10 |
| Full Comprehensive | A | \$12.80 | \$15.60 | \$19.65 | \$26.40 | \$39.20 | \$52.00 |
|  | B | 10.80 | 13.20 | 16.80 | 22.40 | 33.20 | 44.40 |
|  | C | 9.60 | 11.60 | 14.80 | 20.00 | 29.60 | 39.30 |
|  | D | 8.40 | 10.00 | 12.80 | 17.20 | 25.60 | 34.00 |
| Collision \$50 deductible | A | \$74.00 | \$83.20 | \$92.40 | \$106.30 | \$124.80 | \$143.20 |
|  | B | 62.80 | 70.80 | 78.40 | 90.40 | 106.00 | 121.60 |
|  | C | 55.60 | 62.40 | 69.20 | 80.00 | 93.60 | 109.60 |
|  | D | 44.40 | 50.00 | 55.60 | 64.00 | 76.80 | 86.00 |

Ex1: Stanley drives to and from work. His driver rating factor is 4.10 and his insurance coverage is as follows: $100 / 300$ bodily injury and $\$ 25,000$ property damage. What is his annual premium?

Ex2: Elena has $\$ 10,000$ property damage, $25 / 100$ bodily injury, full comprehensive and $\$ 100$ deductible collision coverage. Her car is classified as $\mathrm{C}-9$ and her driver rating factor is 8.35 . What is her annual premium?

Ex3: You drive a car classified B-10 and have $\$ 25,000$ property damage, $15 / 30$ bodily injury, $\$ 50$ deductible comprehensive and $\$ 50$ deductible collision coverage. If your driver rating is 5.15 , what is you annual premium?

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## Maintaining a Vehicle

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= costs that remain about the same no matter how much you drive
- car payment
- insurance
- registration/ tabs
- \(\quad\) = a decrease in the value of your vehicle because of age and condition \(=\) costs that generally increase the more you drive
- gas
- tire rotation - approximately \(\$ 30\) every 5,000 miles
- tune-up - approximately \(\$ 250\) every 30,000 miles
- oil change - \$20-30 every 3,000 miles
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$\square$

Ex1: George and Mary each own a car of the same model. George drive a total of 27,415 miles while Mary drove 9, 615 miles. Both had fixed expenses totaling $\$ 2247.50$. George's variable costs were \$4,606.25 total and Mary's were \$733.15.
a) How much did George spend to operate and maintain his car on a cost per mile basis?
b) How much did Mary spend to operate and maintain her car on a cost per mile basis?

Ex2: Last year, Marco bought a used Jeep for $\$ 15,550$. During the year he drove it 12,272 miles. A guide estimates is worth today at $\$ 14,375$. Insurance costs him $\$ 533.52$, his license and registration fees were $\$ 127.50$ and he estimates his annual variable costs at $\$ 1,250$.
a) What is the depreciation?
b) What is the total annual cost?
c) What is the cost per mile?

Ex3: Sandee has a Ford Focus. Her fixed costs for her Focus are $\$ 1,300$ and her variable costs were $\$ 5,000$. If her cost per mile was $38 \mathrm{C} /$ mile, how many miles did she drive?

Consumer Math
Notes: Financing a New Car

Name $\qquad$
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## Financing a New Car

You can get a car loan at the following places:

- $\qquad$ : generally charges a higher interest rate that other sources
- $\qquad$ : offers convenient financing that is usually at lower interest rates than other sources
$\qquad$ : offers loans to its members. The interest rate varies, but in general, the rate is lower than commercial banks and higher than the car dealers
**Recommendation: take out a car loan for 3.5-5 years...
- For loans longer than 5 years, the lender must charge a higher interest rate because the risk is greater.
- $\qquad$ - when you owe more on the car than it is worth.
- Usually happens with longer term loans.
- Money owed on old car even after you've traded it in
$\qquad$ : the amount of your own money you pay upfront for your vehicle
- Recommended you make a $10-20 \%$ down payment
- The larger the down payment you are able to make the less you need the borrow, the less interest you have to pay and the lower your down payment will be
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## Leasing and Renting a Vehicle

= make monthly payments on the vehicle but do not own it

- Essentially, you are borrowing the car and paying for its use
- When the lease period expires, you must return the car to the leasing company or purchase it
- $\qquad$ = make a specified number of payments, return the vehicle and owe nothing
- 

> for its
$\qquad$ which is the value of the vehicle at the end of the lease period.


Ex1: Maria leased a sedan for her business as a sales person. The lease costs $\$ 233$ per month for 36 months. She paid a deposit of $\$ 625$, a title fee of 83.50 and a license fee of $\$ 115.50$. What is the total lease cost?

Ex2: Jenna has an open-end lease for a Jeep for $\$ 216$ a month for 60 months. She paid a deposit of $\$ 935$, a title fee of $\$ 53$ and a license fee of $\$ 75$. The lease carried a stipulation that there would be a charge of $\$ 0.14$ per miles over 65,000 . She drove the car 82,750 miles. At the end of the lease, she can buy the vehicle for its residual value of $\$ 9,325$.
a) What is the total cost of leasing the vehicle?
b) What is the total cost if she buys the car?
$\qquad$ = Pay for short-term use of a vehicle - you may be charged a daily/weekly rate plus a per mile rate or a daily/weekly rate with no mileage charge if travel remains in a specified area

- Must be 25 years or older to rent a car
- Must pay for gasoline used
- May also have to pay for insurance on rented vehicle
$\square$

Ex1: Abby rented a minivan for her vacation. The cost was $\$ 32.50$ per day plus $\$ 0.23$ per mile. She used the minivan for 6 days. She paid $\$ 75.60$ for gas and drove 590 miles. What was her cost per mile to the nearest cent?

Ex2: You and 2 of your friends rent a limo for prom. The cost is $\$ 82.50$ per day plus $\$ 0.42$ per mile. Insurance costs $\$ 85$. You rent the limo for 2 days and drive 56 miles. The limo gets nine miles per gallon. Gas costs $\$ 2.59$ per gallon and you replace what you used.
a) What is the total cost of renting the limo?
b) What is the cost per mile?
c) What is the cost per person?

