Final Exam

Thursday May 4

PH113 12:30 - 2:30

A - 5
B - 5
C - 4
D - 1
F - 3
Chapter 11
Math of Finance
Consumer Math

11.1 Percent

Percent means per 100

\[ 6\% = \frac{6}{100} = 0.06 \]

(11.1) Change to a %

\[ \frac{1}{4} = 0.25 = 25\% \]

\[ 0.5688 = 56.88\% \]

\[ 13.678 = 1367.8\% \]
Change the % to a decimal.

10) 6.9% = 0.069

20) \( \frac{3}{8} \% = 0.375 \% = 0.00375 \)
That Daimler Chrysler spend

\[
\frac{1392 \text{ million}}{8105 \text{ million total}}
\]

1392 million is what \( \% \) of 8105 million

\[
1392 = \frac{1392}{8105} 
\]

\[
17\% \quad \text{of} \quad 17.17\%
\]

Paimler Chrysler
48. What is 6.5% of $150.00

\[
x = 0.065 \times 150
\]

\[
x = \$9.75
\]

52. 10% of what # is 75?

\[
0.1 \times x = 75
\]

\[
x = 750
\]
Ex: You paid 14,294.31 for a car, which included a sales tax of 6.7%. What was the price of the car before the sales tax?

\[ \begin{align*}
13,436.65 & - 7 \\
13,485.20 & - \text{ answer}
\end{align*}\]

Let \( C = \text{cost of car} \)

\[ \begin{align*}
\text{Cost of car} & \quad \text{Tax} \\
1.06C & = C \\
1.06C & = 14,294.31
\end{align*}\]

Cost of car + tax = total paid

\[ \begin{align*}
C & + .06C = 14,294.31 \\
1.06C & = 14,294.31 \\
1.06C & = 14,294.31
\end{align*}\]

\[ C = 13,485.20 \]

Cost of car
$7.95 \text{ cost of dinner to restaurant}

5, 9 = 11.95 \text{ menu price}

Find % of markup.

\[
\frac{11.95 - 7.95}{7.95} = 4.00 \text{ markup}
\]

Markup is what % of the original cost?

\[
4 = \frac{p}{7.95}
\]

\[
4 = \frac{7.95}{7.95}
\]

\[
p = 0.503
\]

50.3 % markup
11.2

Simple Interest

\[ i = P \cdot r \cdot t \]

- \( i \) = interest - money paid for the use of money
- \( P \) = principal - amount invested or borrowed
- \( r \) = rate - rate of interest as a decimal
- \( t \) = time

Be sure the time for \( r \) and \( t \) are the same unit. Both years, or both months, or both days.
Assume 360 days/year

\[ i = \frac{p \cdot r \cdot t}{360} \]

\[ i = 550.31 \times 0.089 \times \frac{67}{360} \]

Yearly Rate

\[ i = 9.12 \text{ interest} \]

67 days, 1 year

\[ \frac{360 \text{ days}}{360 \text{ days}} \]
$2,500 \text{ for 5 months discounted loan @ 8\%}$

a) $i = prt$
   
   $i = 2,500 \cdot (0.08)\left(\frac{5}{12}\right)$
   
   $i = 83.33 \text{ interest}$

b) $2,500.00 - 83.33 = 2,416.67 \text{ amount he takes home}$

c) $i = prt$
   
   $83.33 = 2,416.67\left(\frac{5}{12}\right)$
   
   $83.33 = 1006.945833\overline{r}$
   
   $83.33 = 1006.945833\overline{r}$

   $1006.945833 = 1006.945833$

   $0.8 = r$

   $8.28\% \text{ actual rate}$
Ex How many days until Christmas?

Christmas Dec 25  359  Table 11.1
Today March 7   -  66

293 days until Christmas
United States Rule

If a partial payment is made on a loan

1. Compute interest from the day you got the money until the day of the partial payment. Pay off this interest.

2. Whatever is left of this payment is used to reduce the principal.

3. Make a 2nd partial payment. Pay off interest from date of 1st partial payment to date of 2nd partial payment. Whatever is left is used to reduce the principal.
Thursday
Rework those missed on the Test (Test 2).

11.1 Those assigned
11.2 Those assigned up to 41