3/21/2006

Final Exam  MAT 106 JC
Thursday May 4
12:30 - 2:30
PH 113
<table>
<thead>
<tr>
<th>Date</th>
<th>Bal Due</th>
<th>Payment</th>
<th>Amrt Int</th>
<th>Amrt Princ.</th>
<th>New Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 15</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$9,000</td>
</tr>
<tr>
<td>Dec 27</td>
<td>9,000</td>
<td>4,000</td>
<td>247.50</td>
<td>3,752.50</td>
<td>5,247.50</td>
</tr>
<tr>
<td>Feb 1</td>
<td>5,247.50</td>
<td>328.99</td>
<td>31.49</td>
<td>5,247.50</td>
<td>0</td>
</tr>
</tbody>
</table>

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

\[ i = 4000(0.06) \times \frac{31}{360} \]

\[ i = 247.50 \]

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

\[ i = 5,247.50(0.06) \times \frac{365}{360} \]

\[ i = 31.49 \]

\[ \text{Feb 1 } = 32 \]

\[ 32 + 4 = 36 \text{ days total} \]
\[ A = P \left(1 + \frac{r}{n}\right)^{nt} \]

\[ A = 4000 \left(1 + \frac{.0459}{360}\right)^{360 \times 4} \]

\[ A = \frac{4806.08}{4} \]

After 4 years

Be sure to put “( )” around the entire exponent.

Danger: Do not round off until the end.
Effective Annual Yield: A-EY  
Annual % Yield: A-PY

It is the simple interest rate equivalent.

34. Find EAY for $1 invested for 1 year at 4.75% compounded monthly,

\[ A = \frac{P}{n} \left(1 + \frac{r}{n}\right)^{nt} \]
\[ A = \left(1 + \frac{.0475}{12}\right)^{12(1)} \]
\[ A = 1.048547861 \]

\[ A = P + i = 1.0485 \]
\[ -P = -1.0000 \]
\[ i = \frac{P \cdot r \cdot t}{P} \]
\[ i = .0485 \]

\[ .0485 = r \]
\[ 4.85\% \text{ EAY} \]
Ex

I need $10,000 in 5 years.
What lump sum must I invest today at 6.5% compounded monthly to reach my goal?

\[ A = P \left(1 + \frac{r}{n}\right)^{nt} \]

\[ 10000 = P \left(1 + \frac{.065}{12}\right)^{12(5)} \]

\[ \frac{10000}{\left(1 + \frac{.065}{12}\right)^{60}} = P \]

\[ P \approx \$7231.61 \text{ needed today} \]
(1a) **APR = true annual % Rate**

(1b) $1900 total cost
20% to down
24 mo loan @ 8.5% APR

20% is $380 down payment
2400 - $380 = down payment

$2400 - $380 = down payment

$2320 needed in loan

APR Table P623 Table 11.2

For each $100 you borrow and pay back in 2 years (24 mo) @ APR=8.5%,
the financial change is $9.09.

$2320 / 180 = 23.2 \# of yrs

9.09 \% per yr

23.2 \# of yrs

$9.09 \% per yr

$210.89 total financial change (interest)

$2530.89 total to be repaid

$2970.89 / 24 = $123.78 per month
APR = 7.5%
Ex

Borrow $300
Finch $15

\[
\frac{\text{Finch}}{\text{Amt Finch}} \times 100 = \frac{\$15}{300} \times 100 = \frac{\$5}{\text{Finch for } 100}
\]
Thursday

11.3 29 - 43 odd 47

11.4 1 - 15 odd

Don’t read PP B: 1km 624 - 626 mid