

3-4 LOAN CALCULATIONS

You will need:

- **Student Notes**
- **Textbook**
- **Calculator**
- **3-2 Notes**
- **Notebook Paper**
- **Pen or Pencil**

Items in red are needed
for the lecture.

OBJECTIVES

Calculate the term (length) of a loan.

Create an amortization table.

Example 2

Claude wants to borrow \$25,000 to purchase a car. After looking at his monthly budget, he realizes that all he can afford to pay per month is \$300. The bank is offering a 5.9% loan. What would need to be the length of his loan be so that he can stay within his budget?

$$M = \frac{P \left(\frac{r}{12} \right) \left(1 + \frac{r}{12} \right)^{12t}}{\left(1 + \frac{r}{12} \right)^{12t} - 1}$$

Monthly Payment Formula:

M = monthly payment 300

P = Principal 25,000

r = annual interest rate (converted) .059

t = length of investment in years t

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Monthly Payment Formula:

M = monthly payment 300

P = Principal 25,000

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t = length of investment in years t

9 years

Example 2 – You try it!

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Monthly Payment Formula:

M = monthly payment 350

7.4 years

P = Principal 25,000

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Example 3

John does not have a very good credit rating. He found a lending institution that was willing to loan him \$100,000 for 15 years at a higher than normal interest rate of 7.5% because of his poor credit rating.

a. What will his payment be?

On your phone go to: www.bankrate.com

☰ Bankrate

↑ Click on the 3 bars next to Bankrate

Click on Loans

Slide down several times and click on Student Loan calculator

Example 3

John does not have a very good credit rating. He found a lending institution that was willing to loan him \$100,000 for 15 years at a higher than normal interest rate of 7.5% because of his poor credit rating. The loan will start on today's date.

a. What will his payment be?

Loan Amount: 100,000

\$927.01

Loan term in years: 15

Interest **as a %**: 7.5

Push Calculate button

Example 3

John does not have a very good credit rating. He found a lending institution that was willing to loan him \$100,000 for 15 years at a higher than normal interest rate of 7.5% because of his poor credit rating. The loan will start today.

b. What will his balance be after one year?

↓ Click on “Show Amortization Schedule” ↓
(Today’s date + 1 year)

\$96,249

Example 3

John does not have a very good credit rating. He found a lending institution that was willing to loan him \$100,000 for 15 years at a higher than normal interest rate of 7.5% because of his poor credit rating. The loan will start on Jan. 1, 2017

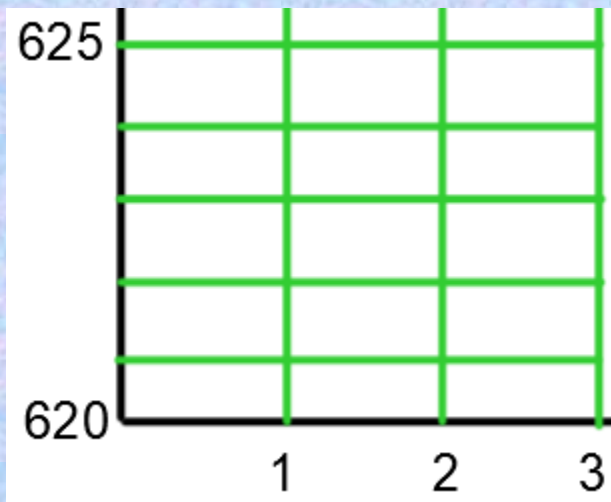
c. Fill in the amortization schedule for the first 3 months.

Date	Principal	Interest	Balance
	302	625	99,698
	304	623	99,394
	306	621	99,088

Example 3

John does not have a very good credit rating. He found a lending institution that was willing to loan him \$100,000 for 15 years at a higher than normal interest rate of 7.5% because of his poor credit rating. The loan will start on Jan. 1, 2017

d. Plot the interest payments.

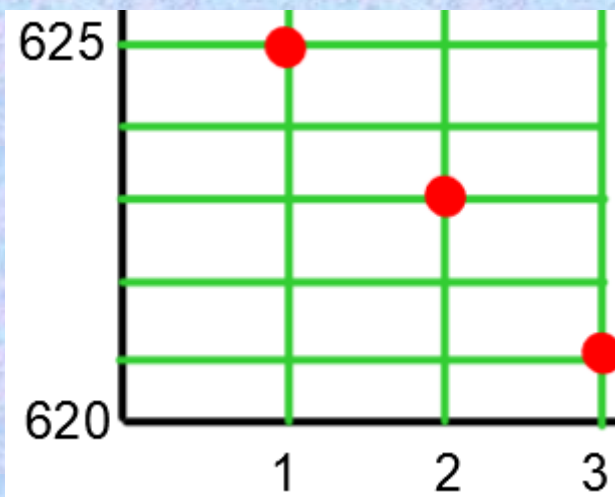


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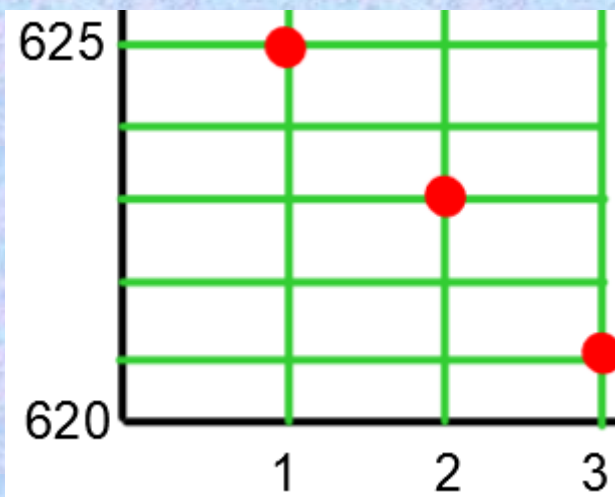


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e. Why are you paying less interest each month?

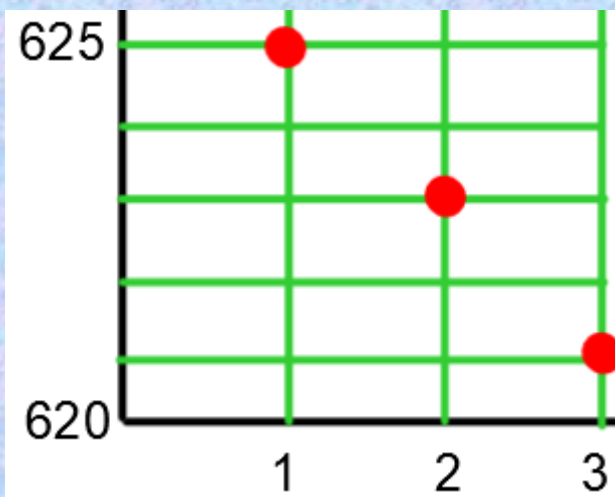


Each payment that you make reduces the principal balance, which means less interest is owed for the next month.

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f. So...does your payment get reduced each month?



No. So where does the “extra” money go? It goes toward the principal.

Please work on you assignment.
It is due at the end of next class.

Grade goes here	Read Pg: 173 to 176 Do Pg 177: #2-5, 7-10, 11a-d, 12a-d	Last First P__ A:3-4

**Please do the Daily
Question
RIGHT NOW!!!**

**If you need an to borrow my Ipad
just let me know.**