Math 1050

Group Project: Buying a House

Select a house from a real estate booklet, newspaper, or website. Cut out the picture and/or description of this house and attach it to this lab. **Assume you are paying the asking price for the house.** (Pick something reasonable, between $80,000 and $200,000.)

Its listed selling price is $80,000.00

Down Payment: Assume that you are going to make a 10% down payment on the house. Determine the amount of your down payment and the balance to finance.

Down Payment 8000.00 Mortgage Amount 72,000.00

Interest Rates: Consult a lending institution and ask for its interest rates for both a 15_year and a 30_year fixed rate mortgages with no "points."

Name of lending institution Wells Fargo (wellsfargo.com)

Rate for a 15-yr mortgage 3.75% APR 3.925% Rate for a 30-yr mortgage 2.875% APR 3.182%

Monthly Payment: Calculate the monthly payment for both loans (rounding up to the nearest cent) by using the following formula . Show your work.

15 year

$$\frac{72000\times\left(\frac{.03925}{12}\right)}{1-\left(1+\left(\frac{.03925}{12}\right)^{-12\cdot 15}\right.}$$

$$PMT=\frac{P\times\left(\frac{APR}{n}\right)}{1-\left(1+\frac{APR}{n}\right)^{-nY}}$$

30 year

$$\frac{72000\cdot\left(\frac{.03182}{12}\right)}{1-\left(\frac{.03182}{12}\right)^{-12\cdot 15}}$$

15-yr Monthly Payment $529.87 30-yr Monthly Payment 310.67

*This monthly payment covers only the interest and the principal on the loan. It **does not cover** any insurance or taxes on the property.

Amortization Schedule: In order to summarize all the information regarding the amortization of a loan, construct a schedule that keeps track of period (payment number), amount of payment, interest, balance reduction and unpaid balance. A spreadsheet program is an excellent tool to develop an amortization schedule.

Note: the following directions are for QuatroPro. If you do not have access to QuatroPro you can find search the Web for Amortization Schedules.

$80,000 5035 W 6515 S West Jordan UT 84084

3 Bedrooms | 2 Bathrooms | 1450 sq. ft.

MLS #: 1062501
Type / Style: Twin / Tri/Multi-Level **Year Built:** 1982

SHORT SALE
More Info

Property Photos

Agent Info

Agent:
Marcela Montemurro
Phone:
801-403-8966
Email the Agent

Office:
Exit Realty Plus
Phone:
801-506-3110

Remarks

This is a Short Sale twin house. 3 bedrooms and 2 bathrooms, with a little of TLC this place will go long ways. Ideal location.

Interior Features Include

- Dishwasher, Built-In
- Disposal
- Kitchen: Updated
- Range: Countertop
- Range/Oven: Built-In
- Floor Coverings: Carpet; Linoleum
- Window Coverings: Blinds
- Air Conditioning: Central Air; Electric
- Heating:
- Basement: (95% finished) Full

Exterior Features Include

- Exterior: Double Pane Windows; Outdoor Lighting
- Lot: Cul-de-Sac; Road: Paved; Secluded Yard; Sidewalks
- Landscape: Landscaping: Full; Mature Trees
- Roof: Asphalt Shingles
- Exterior: Aluminum/Vinyl
- Patio/Deck: 1 Deck
- Garage/Parking: Attached
- Garage Capacity: 1

Other Features Include

- Amenities: Electric Dryer Hookup
- Utilities: Sewer: Public
- Water: Culinary

Zoning Information

- Zoning:

Rooms Include

- 3 Total Bedrooms
  - Floor 2: 2
  - Basement: 1
- 2 Total Bathrooms
  - Floor 1: 1 Full
  - Basement: 1 Three Qrts
- Other Rooms:
  - Floor 1: 1 Family Rm(s); 1 Kitchen(s);
  - Basement: 1 Family Rm(s); 1 Laundry Rm(s);

Square Feet On Each Floor

- Floor 2: 350 sq. ft.
- Floor 1: 540 sq. ft.
- Basement: 560 sq. ft.
- Total: 1450 sq. ft.

Local Schools

- School District: Granite
- Elementary School:
- Jr High: Kearns
- Sr High: Kearns
- Priv High:
- Other High:

Lot Size In Acres

- Acres: 0.08

Create amortization schedules for each of your proposed loans, complete the following tables and answer the questions. (Copy the information from a Quattro Pro amortization schedule.)

15_Year Mortgage

Period Payment #	$Payment	$Interest	Principle Paid	New Balance
1	529.87	235.50	294.37	71,705.63
2	529.87	234.54	295.34	71410.29
50	529.87	184.42	345.45	56,037.68
90	529.87	136.22	393.66	41,252.35
130	529.87	95.70	434.17	28,824.57
150	529.87	66.40	463.48	19,836.62
180	529.87	1.73	528.15	0.00
Total	95,377.19	23,377.19	72,000.00	----------

Find the number of the first payment when more of the payment goes toward principal than interest.

Payment number #1

How does the total amount of interest paid compare with the amount of the mortgage? (Give both the absolute comparision and the relative comparision.)

$4.08 of principle for every $1.00 paid toward Interest

Suppose you could get an interest rate that is one-quarter of a percent less than the one you have. By how much would this lower the monthly payment on the 15 yr loan?

$8.94 per month

Reducing the total amount of Interest paid out By $1609.20

30_Year Mortgage

Period Payment #	$Payment	$Interest	Principle Paid	New Balance
1	310.67	190.92	119.75	71880.25
2	310.67	190.62	120.07	71,760.19
90	310.67	159.09	151.57	59,846.10
150	310.67	132.99	177.68	49,976.27
250	310.67			
300	310.67	45.64	265.03	16,946.78
360	310.67	0.82	309.85	0.00
Total	111,840.39	39,840.39	72000.00	----------

Find the number of the first payment when more of the payment goes toward principal than interest.

Payment number 87

How does the amount of total interest paid compare with the amount of the mortgage? (Give both the absolute comparision and the relative comparision.)

2.81 P : 1.00 I

for every $2.81 spent on principle
$1.00 goes toward the Interest

Suppose you paid an additional $50 towards the principal each month. How does this change the length of time needed to pay off the 30 yr loan and the total amount paid? Be specific!

Reduces the # of payments from 360 to 286
Payoff over 6 years faster

Work with your information. Experiment and learn!

Observations and Conclusions:
Use a word processor to write a one-page paper summarizing your observations about buying a house.