

### Section 11.5 Buying a House with a Mortgage

A *mortgage* is a long-term loan in which the property is pledged as security for payment of the difference between the down payment and the sale price.

The *down payment* is the amount of cash the buyer must pay to the seller before the bank will grant the mortgage.

The down payment varies depending on the lender. It can be as low as **5%** when money is loose or easy to borrow, or as high as **25%** when money is tight or difficult to borrow.

Once the borrower meets the criteria for the mortgage the bank prepares a written agreement called the mortgage. The agreement states:

- a) repayment schedule
- b) duration of the loan
- c) whether the loan can be assumed by another party
- d) penalty if payments are late
- e) 50 more pages of mumbo jumbo

Two most popular types of mortgage loans:

1. *Conventional Loan* - The interest rate is fixed for the duration of the loan.

Advantage

lower interest rates

same payment for life of loan

Disadvantage

higher interest rate (rates could drop)

20% down payment

2. *Adjustable Rate Loan (Variable Rate)* - The interest rate may change every period (1 - 5 years)

Advantage /Disadvantage

Lower rates than conventional loan Rate but can be raised as much as 2% per year with a cap of 10% increase

Short term buy

Down payments less than 20% requires the borrower to purchase Private Mortgage Insurance (PMI) until they have 20% equity in the house. The cost of PMI is usually 0.5% to 1% of the loan amount annually.

Example: Loan of \$100,000

$$\begin{aligned} & .005 (100000) && 5000 \\ & = 500 / 12 && = 41.67 \end{aligned}$$

Pay **Points** at closing (the final step in the buying process)

- 1 point = 1% of the **loan** (not the price of the house) - prepaid interest and also lowers the interest rate.
- Reduces the monthly payment. -
- If you don't pay Points, then the interest rate will be higher. -
- You should only pay points if you plan on staying in the home for a long time.

Closing Cost

<https://smartasset.com/mortgage/closing-costs#MDYwafsK8L>



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**EXAMPLE 1** *Down Payment and Points*

Patricia and Marshall Martin wish to purchase a house selling for \$249,000. They plan to obtain a loan from their bank. The bank requires a 15% down payment, payable to the seller, and a payment of 2 points, payable to the bank, at the time of closing.

- Determine the Martins' down payment.  $.15(249,000) = 37,350$
- Determine the amount of the Martins' mortgage.
- Determine the cost of the 2 points paid by the Martins on their mortgage.

$$b) 249,000 - 37,350 = 211,650 \text{ mortgage}$$

$$c) .02(211,650) = 4233$$

John Boy wishes to purchase a house selling for \$425,000. He plans to obtain a loan from his mortgage company. The company requires a 20% down payment, payable to the seller, and a payment of 1.5 points, payable to the bank, at the time of closing.

- a) Determine John Boy's down payment.  $.20(425,000) = 85,000$
- b) Determine the amount of John Boy's mortgage.  $425,000 - 85,000 = 340,000$
- c) Determine the cost of the 1.5 points paid by John Boy on his mortgage.

$$= .015(340,000) = 5,100$$

The banks uses a formula to determine the maximum monthly payment a purchaser can afford.

**Gross monthly income** is the amount of money you make in a month before any taxes, social security, and retirement money is taken from you check.

1. *Adjusted monthly income* =

**gross monthly income** minus **any fixed monthly payments with more than 10 months remaining from your income.**

2. Adjusted monthly income **X 28%**

This amount must cover principal, interest, property tax, and insurance.

**Taxes and insurance** are not necessarily paid by the bank.

<https://smartasset.com/mortgage/closing-costs#MDYwafsK8L>

**Crane, Reginald A** Pay Period 01/09/2011 - 01/15/2011

Use Direct Deposit

**Earnings**

Item Name	Rate	Hours	WC Code	Customer:Job	Class	Service Item
Crane Operator	41.51	40.00	7219		Labor	
<b>Totals:</b> 1,660.40 40.00 hrs						

Sick Available 0.00

Vacation Avail. 0.00

Sick Accrued

Vac. Accrued

Do not accrue sick/vac

**Other Payroll Items** [How are these items calculated?](#)

Item Name	Rate	Quantity
G/L Insurance - Field		0.636 16.60
Bona-fide Plan Contributions		18.72 40.00

**Employee Summary** [How are these items calculated?](#)

Item Name	Amount	YTD
Crane Operator	1,660.40	4,069.60
Federal Withholding	-331.00	-872.00
Social Security Employee	-69.73	-170.92
Medicare Employee	-24.08	-59.01
CA - Withholding	-114.19	-304.98
CA - Disability Employee	-19.93	-48.84
	<b>\$558.93</b>	<b>in taxes</b>
Check Amount:	<b>1,101.47</b>	

**Company Summary** [How are these items calculated?](#)

Item Name	Amount	YTD
G/L Insurance - Field	10.56	25.88
Bona-fide Plan Contributions	748.80	748.80
CA - Employment Training Tax	1.66	4.07
Social Security Company	102.95	252.32
Medicare Company	24.08	59.01

Enter net/Calculate gross

**EXAMPLE 2** *Qualifying for a Mortgage*

Suppose the Martins' (see Example 1) gross monthly income is \$7250 and they have 23 remaining monthly payments of \$225 on their car loan, 17 remaining monthly payments of \$175 on their daughter's orthodontic braces, and 11 remaining monthly payments of \$45 on a loan used to purchase new furniture. The property taxes and homeowners' insurance on the house they wish to buy are \$165 and \$115 per month, respectively. Their bank will approve a loan that has a total monthly mortgage payment of principal, interest, property taxes, and homeowners' insurance that is less than or equal to 28% of their adjusted monthly income.

- Determine 28% of the Martins' adjusted monthly income.
- The Martins want a 30-year, \$211,650 mortgage. If the interest rate is 7.0%, determine the total monthly mortgage payment (including principal, interest, property taxes, and homeowners' insurance) for this mortgage.
- Determine whether the Martins qualify for this mortgage.

$$a) \quad 7250 - 225 - 175 - 45 = \text{AMI} = 6805$$

$$x \quad .28$$


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$$1905.40$$

$$b) \quad \frac{211,650}{1000} \times 6.65 = 1407.47$$

$$\text{P/Y}$$

$$c) \quad \text{Total} = \frac{1407.47}{\text{P/Y}} + \frac{115}{\text{Ins}} + \frac{165}{\text{Tax}} = \boxed{1687.47} \quad \text{yes}$$