Margin Exercise Answers

1. a. \$153,000 **b.** \$22,054 **2. a.** \$697.87 **b.** \$992.87 **3. a.** 1299.97 **b.** This payment fits into the monthly budget of \$1500

4.

Payment Number	Interest Payment	Principal Payment	Mortgage Balance
4	\$672.32	\$239.71	\$179,046.53
5	\$671.42	\$240.61	\$178,805.93
6	\$670.52	\$241.51	\$178,564.42

7.4 Exercises

Concept Check

Fill-in-the-Blank. Complete each sentence using information found in this section.

1. _____ _____ is the selling price that you agree to pay for the house.
2. Cash paid to the seller that is not part of the loan is called the _____ _____.
3. An amortization schedule breaks down your monthly payment to show how much is applied to the _____ and how much goes towards _____.
4. The general guideline is to spend at most 30% of your income (before taxes) on _____ _____.
5. _____ _____ are the amount you need to pay to finalize the purchase of a house.
6. Points are a fee paid to the lender at closing in exchange for a lower _____ _____.

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

7. Private mortgage insurance is required on all mortgages.
8. One point is equal to 1% of the mortgage.
9. When budgeting for housing costs, you should factor in homeowners insurance and property tax.
10. During initial payments of a mortgage, more money goes towards the principal than towards interest.

Practice

Determine the down payment amount and the amount financed. See Example 1.

1. A house sells for \$160,000 and the buyer makes at 15% down payment.
2. A house sells for \$250,000 and the buyer makes an 18% down payment.
3. A house sells for \$195,000 and the buyer makes a 20% down payment.

4. A house sells for $176,000 and the buyer makes a 10% down payment.

5. A house sells for $385,900 and the buyer makes a 20% down payment.

6. A house sells for $495,000 and the buyer makes a 15% down payment.

Calculate the monthly mortgage payment. Round to the nearest cent. See Example 2.

7. $155,000 is financed for 30 years at 4.5% APR

8. $190,000 is financed for 15 years at 4% APR

9. $175,000 is financed for 15 years at 4.25% APR

10. $214,000 is financed for 30 years at 5% APR

11. $388,000 is financed for 30 years at 4.25% APR

12. $412,600 is financed for 30 years at 4.75% APR

Fill in an amortization table for the first three months for each mortgage. See Example 4.

Payment Number	Interest Payment	Principal Payment	Mortgage Balance
1			
2			
3			

13. A 30-year $200,000 mortgage at an APR of 4% has a monthly payment of $954.83.

14. A 30-year $160,000 mortgage at an APR of 5% has a monthly payment of $858.91.

15. A 30-year $250,000 mortgage at an APR of 4.5% has a monthly payment of $1266.71.

16. A 15-year $185,000 mortgage at an APR of 4% has a monthly payment of $1368.42.

Applications

Solve.

17. Andrea is buying a house for $130,000. She plans to make a 20% down payment. Closing costs include $400 for 6 months of homeowners insurance, $900 for 6 months of property tax, $150 for the title fee, and $450 in transaction fees. Andrea also agreed to pay two points in exchange for a 0.5% reduction in interest rate.

    a. Determine the mortgage amount.

    b. Determine the amount of money Andrea needs to cover closing costs.

18. Kylie and Joel are buying a house for $220,000. They plan to make a 10% down payment. Since the down payment is less than 20%, they will also have to pay for PMI that costs 0.5% of the mortgage value and will be included in the closing costs. Other closing costs include $675 for 6 months of homeowners insurance, $1300 for 6 months of property tax, $150 for the title fee, and $600 in transaction fees.

a. Determine the mortgage amount.

b. Determine the amount of money Kylie and Joel need to cover closing costs.

19. Manuel purchases a house and gets a 30-year mortgage for $170,500 at 4.25% APR. In addition to the monthly payment, the lender requires him to pay into an escrow account for the homeowners insurance and property tax. His homeowners insurance is $1050 per year and the property tax is $2200 per year.

a. Determine the monthly mortgage payment for this loan. Round to the nearest cent, if necessary.

b. Determine the monthly payment to the lender that includes the insurance and property tax.

20. Sarah purchases a house and gets a 30-year mortgage for $142,000 at 4.5% APR. In addition to the monthly payment, the lender requires her to pay into an escrow account for the homeowners insurance and property tax. Her homeowners insurance is $850 per year and the property tax is $1700 per year.

a. Determine the monthly mortgage payment for this loan. Round to the nearest cent, if necessary.

b. Determine the monthly payment to the lender that includes the insurance and property tax.

21. You and your spouse make $4800 per month and are looking to buy a house. You want to spend no more than 30% of your monthly budget on mortgage payments. You've saved $45,000 for a down payment and closing costs. You are interested in a house that is listed at $270,000. The estimated yearly property tax for the house is $2700 and the estimated homeowners insurance for a year is $1250.

a. Suppose you purchase the house for the price listed and make a 15% down payment. Determine the estimated monthly payment, including homeowners insurance and property tax, on a 30-year mortgage at 4.5% APR.

b. Does this monthly payment fit into your budget?

22. You and your spouse make $3600 per month and are looking to buy a house. You want to spend no more than 30% of your monthly budget on mortgage payments. You've saved $25,000 for a down payment and closing costs. You are interested in a house that is listed at $150,000. The estimated yearly property tax for the house is $1900 and the estimated homeowners insurance for a year is $970.

a. Suppose you purchase the house for the price listed and make a 10% down payment. Determine the estimated monthly payment, including homeowners insurance and property tax, on a 30-year mortgage at 4.75% APR.

b. Does this monthly payment fit into your budget?

23. You are taking out a 30-year mortgage on a house for $276,400. The loan officer tells you that you can decrease your interest rate from 4.75% to 4.25% if you pay 2 points on your mortgage up front.

a. Determine the total finance cost of the mortgage at 4.75% APR.

b. Determine the total finance cost of the mortgage at 4.25% APR, including the cost of the points paid up front.

c. Is it worth paying points up front to decrease the interest rate? Explain why or why not.

24. You are taking out a mortgage on a house for $312,760. The loan officer tells you that you can get a 15-year mortgage at 4% APR or a 30-year mortgage at 4.5% APR.

a. Determine the total finance cost of the 15-year mortgage.

b. Determine the total finance cost of the 30-year mortgage.

c. Describe the pros and cons of each mortgage option. Which would you go with, a 15-year mortgage or a 30-year mortgage?