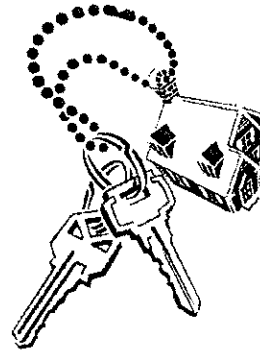


Borrowing a House

You know you will need to borrow money to buy a house. Before you look at houses, you should know the maximum you will be able to borrow and the maximum you will be able to spend for a house. In general, you should borrow no more than 2 times your annual gross income (though some mortgage lenders will tell you otherwise).



Example 1: You have saved \$31,000 to buy a house. Your annual gross income is \$48,600. What is the maximum you should be able to borrow? What is the maximum you should be able to spend for a house?

Step 1 Multiply to find the maximum you should borrow. $2 \times \$48,600 = \$97,200$

The maximum you can comfortably borrow is \$97,200.

Step 2 Add to find the maximum you can spend. $\$97,200 + \$31,000 = \$128,200$

The maximum you should be able to spend on a house is \$128,200.

You would like to buy a house that **appreciates** (increases in value) each year. The more the appreciation, the higher the future value of the house.

Example 2: Fran bought a house for \$120,000. Her house appreciated 5% each year. What was the value of the house after 2 years?

Step 1 Multiply to find the first year's appreciation.

THINK: $5\% = 0.05$

$$0.05 \times \$120,000 = \$6,000$$

Step 2 Add to find the value after 1 year.

$$\$120,000 + \$6,000 = \$126,000$$

Step 3 Multiply to find the second year's appreciation.

THINK: Use the value after 1 year.

$$\$126,000 \times 0.05 = \$6,300$$

Step 4 Add to find the value after 2 years.

$$\$126,000 + \$6,300 = \$132,300$$

Step 5 Subtract to find the amount of appreciation.

$$\$132,300 - \$120,000 = \$12,300$$

Answer: After two years, Fran's house was worth \$12,300 more than she paid for it.

Practice

TIP Remember to estimate whenever you use your calculator.

These people want to become homeowners. What is the maximum they can afford to borrow? What is the maximum they should be able to spend?

- | | |
|--|---|
| <p>1. Fred Henderson's savings: \$18,000
Gross salary: \$41,000 per year
_____</p> | <p>2. Denise Chin's savings: \$41,600
Gross salary: \$36,500 per year
_____</p> |
| <p>3. Marge LaBeau's savings: \$27,620
Gross salary: \$785 per week
_____</p> | <p>4. Rafael Rodriguez's savings: \$52,600
Gross salary: \$71,500 per year
_____</p> |
| <p>5. Karen Goldblum's savings: \$5,000
Gross salary: \$3,760 per month
_____</p> | <p>6. The Militanos' savings: \$24,409
Gross salaries: Terri \$37,200 per year;
Frank \$3,975 per month
_____</p> |

Complete the table to find the appreciation and the value of each house.

Value	Yearly Rate of Appreciation	Appreciation in One Year	Value After One Year
\$50,000	5%	7. _____	8. _____
\$74,500	-3%	-\$2,235	9. _____
\$92,600	1%	10. _____	11. _____
\$140,630	9%	12. _____	13. _____
\$200,000	3%	14. _____	15. _____

Name _____ Date _____

Notice that not all the values in the table above are positive. If a house's value falls in a given year, this is called **depreciation**. The following table shows what happened to one house over a 5-year period. Complete the table.

Year	Value	Yearly Rate of Appreciation	Amount of Appreciation in that Year
Year 1	\$250,000	-20%	-\$50,000
Year 2	\$200,000	16. _____	\$0
Year 3	17. _____	4%	\$8,000
Year 4	\$208,000	18. _____	\$4,160
Year 5	19. _____	0%	20. _____

Think About It

1. What factors do you think make a house appreciate or depreciate in value?

More Practice

Solve.

- Greg's house was valued at \$45,500 in 1980. For two years, the house appreciated at a rate of 2% each year. What was the value after 2 years? _____
- Lillian's house was valued at \$170,500 in 2003. The house appreciated 6.5% each year. What was the value after 2 years? _____
- Fawn's house in Connecticut was valued at \$155,000 in 1981. The house appreciated 10% each year for the first 2 years. What was the value after 2 years? _____
- Michelle's house was valued at \$166,400. The house appreciated 9.5% each year. What was the value after 2 years? _____
- Gene's house was valued at \$248,200 when he bought it. The house appreciated at 12.5% per year for the next three years. What was the value after 3 years? (Round your answer to the nearest cent.)

Name _____ Date _____

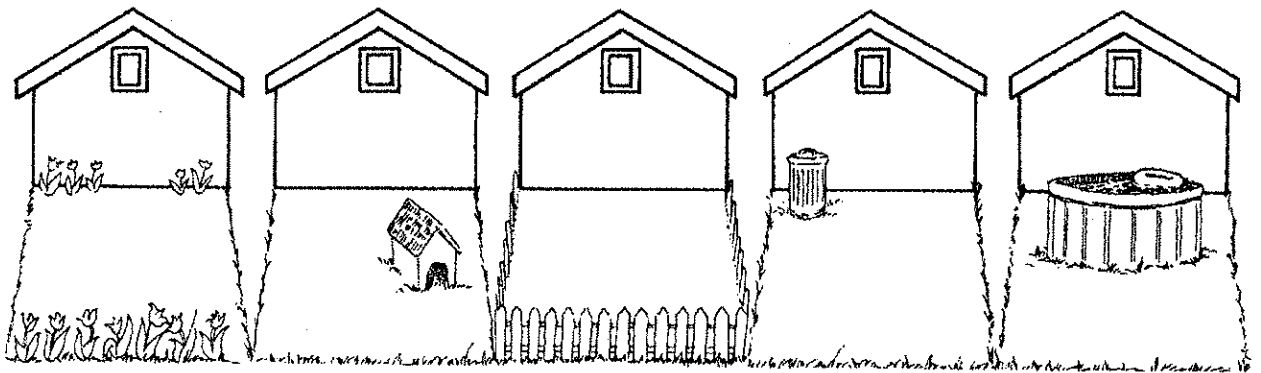
- Hal and Donna's house in Anchorage was valued at \$103,600 in 1988. The house depreciated at a rate of 2% per year (**THINK:** reduced in value by 2% per year), for the next 2 years. What was the house worth in 1990? _____
- John and Sharon bought a house in Seattle in 2007 for \$465,000. In 2008, it depreciated 10%. How much was the house then worth? _____
- Janet bought a house for \$358,000. The following year, it was worth only \$304,300. At what rate did it depreciate that year? _____
- Gary's house was valued at \$582,500. For the next two years, it depreciated at a rate of 5% each year. What was it worth after 2 years? _____
- Shauna's house was worth \$140,000 when she bought it. It held its value for one year (i.e., neither appreciated nor depreciated), but the following year it lost 2% of its value. What was it worth after 2 years? _____

Extension **Appreciation**

Just because a house costs more than another does not mean that it will be more valuable in the future. Ed bought a house for \$53,900. It appreciated 13% each year. Eileen bought a house for \$61,000. It appreciated 6% each year.

- Which house was worth more after 2 years?

- If the houses keep appreciating in the same way, what will the difference in value be in 5 years?



\$648.70

P : 77

Part II Test

1. \$23,934.19;
2. \$1,631.92
3. \$339.03
4. \$115.27
5. \$1,797.46
6. AGI = \$46,887 / TI = \$41,187 / Fed. Tax = \$6,475
7. AGI = \$64,478 / TI = \$53,078 / Fed. Tax = \$7,124
8. Fed. Tax = \$1000 / State Tax = \$417.50 / City Tax = \$105
9. \$850

Part III: Housing

Pages 79-80

Pre-Skills Test

- 43,770
2. \$67,190
3. \$203,410
4. \$308,792
5. \$22,320
6. \$21,875
7. \$35,728
8. \$42,998
9. \$216,000
10. \$139,400
11. \$652,572
12. \$73,830
13. \$36,306
14. \$68,878.40
15. \$1,200
16. \$3,105
17. \$3,192.75
18. \$7,656.38
- 19 \$150,000
- 20 \$139,196.43

21. \$210,625
22. \$388,442.86
23. 5 24. 4
25. 4 26. 3
27. 8 28. 12
29. 9 ft 30. 12 ft
31. 42 ft 32. 108 sq ft
33. 12 sq yd

Pages 82-84

Think About It

1. Answers may vary.
2. Answers may vary.

Practice

1. \$728 2. \$1,050
3. \$1,166.67 4. \$548.51
5. \$1,386.67: \$388.27
6. \$1,473.33: \$412.53
7. \$1,646.67: \$461.07
8. \$1,733.33: \$485.33
9. \$1,820: \$509.60
10. \$1,906.67: \$533.87
11. \$2,080: \$582.40
12. \$2,253.33: \$630.93
13. \$2,426.67: \$679.47
14. \$2,374.42: \$664.84
15. \$446 16. \$471
17. \$560 18. \$709
19. \$544 20. \$501
21. \$744
22. Hastings House
23. \$1,058.75
24. \$1,067
25. \$1,650
26. \$3,019.50
27. \$3,290.25
28. \$2,100
29. \$650
30. \$1,415
31. \$1,213.24

Page 86

Problem Solving Application

1. \$355
2. \$404
3. \$49
4. Jefferson Manor includes covered parking.
5. No; she pays \$9.00 less.
6. \$2,370
7. \$3,232
8. \$5,505
9. Jefferson; three rooms
10. Jefferson Manor
11. Washington Rooming House

Pages 88-90

Practice

1. \$82,000; \$100,000
2. \$73,000; \$114,600
3. \$81,640; \$109,260
4. \$143,000; \$195,600
5. \$90,240; \$95,240
6. \$169,800; \$194,209
7. \$2,500
8. \$52,500
9. \$72,265
10. \$926
11. \$93,526
12. \$12,656.70
13. \$153,286.70
14. \$6,000
15. \$206,000
16. 0%
17. \$200,000
18. 2%
19. \$212,160
20. \$0

*Buying
A
House*

Think About It

1. Students should explain that a house appreciates

in value because of its location, its commuting distance to a city, its nearness to various attractions, and the state of the economy. Houses depreciate due to factors affecting the overall economy.

More Practice

1. \$47,338.20
2. \$193,385.36
3. \$187,550
4. \$199,517.76
5. \$353,394.14
6. \$99,497.44
7. \$418,500
8. 15%
9. \$525,706.25
10. \$137,200

Extension

1. Ed's house
2. \$17,675.49

Pages 93-94

Think About It

1. Condominiums tend to be less expensive, and their taxes tend to be less, as well.
2. Assessments of needed maintenance can unexpectedly add thousands of dollars to a condo-dweller's expenses.

Practice

1. \$35,600, \$1,253.76
2. \$50,000, \$1,623.64
3. \$3,500, \$798.56
4. \$3,500
5. \$4,464.29
6. \$7,857.14
7. \$9,928.57

8. \$12,678.57
9. \$14,285.71
10. \$37,520; \$1249.80
11. \$35,000; \$1,029.55
12. about \$3,400

Extension

1. In 2 years, maintenance fees will be \$210.
2. In 2 years, the monthly payment will be \$1,444.47.

Pages 96-98

Think About It

1. The monthly payment per \$1,000 for 11% (\$9.53) is about \$0.80 more than for 10% (\$8.78). You can mentally multiply $50 \times \$0.80$ to get \$40 extra per month at 11%.

Practice

1. \$1,326.75
2. \$995.68
3. \$1,575.20
4. \$939.75
5. \$876.66
6. \$24,800
7. \$99,200
8. \$907.68
9. \$8,970
10. \$80,730
11. \$779.85
12. \$28,086
13. \$65,534
14. \$642.89
15. \$11,976
16. \$67,864
17. \$570.74
18. \$2,160
19. \$1,720
20. \$5,395
21. \$3,361.25

22. \$3,876.25
23. \$37,800
24. \$151,200
25. \$858.82
26. \$28,970
27. \$260,730
28. \$1,720.82
29. \$117,900
30. \$275,100
31. \$1,771.64
32. \$119,750
33. \$359,250
34. \$2,270.46

Extension

- | | |
|---------------|---------------|
| 1. \$778.65 | 2. \$643.86 |
| 3. \$1,267.20 | 4. \$980.00 |
| 5. \$693.12 | 6. \$834.62 |
| 7. \$1,627.08 | 8. \$1,829.42 |
| 9. \$2,040.54 | 10. \$592 |

Pages 100-102

Think About It

1. Tax rate increases when costs increase, or when a locality loses property from its tax rolls.
2. Banks earn interest on the money they hold until taxes are paid.

Practice

- | | |
|--------------------------|----------------|
| 1. \$76,000 | 2. \$88,500 |
| 3. \$172,900 | 4. \$129,285 |
| 5. \$310,791 | 6. \$2,391.96 |
| 7. \$2,099.02 | 8. \$1,975.68 |
| 9. \$2,323.56 | 10. \$5,242.56 |
| 11. \$721 | 12. \$824 |
| 13. \$878 | 14. \$780 |
| 15. \$945 | 16. \$87,500 |
| 17. \$52,250 | |
| 18. \$87,750; \$2,886.98 | |
| 19. \$71,920; \$3,042.22 | |
| 20. \$804.58 | 21. \$712.52 |