

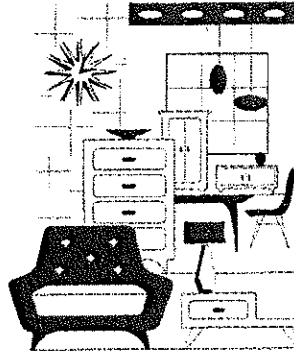
## Decorating and Remodeling

You decide to paint the living room walls. You want to make only 1 trip to the paint store to get the paint, so you use the accepted guideline: 1 gallon of paint covers about 400 square feet (including spaces for windows and doors).

**Example 1:** The ceiling in the room is 8 feet high. How many gallons of paint will you need to paint the walls? How much will the paint cost at \$16.85 per gallon (including tax)?

(**THINK:** Identify the dimensions of the room.)

Length = 18 ft    Width = 14 ft    Height = 8 ft



**Step 1** Add to find the perimeter.  
 $14 + 18 + 14 + 18 = 64$  ft

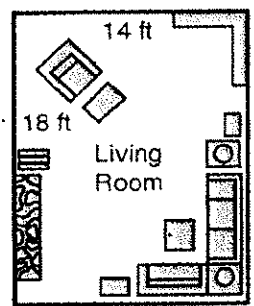
**Step 2** Multiply to find the area of the 4 walls.  
 $8 \times 64 = 512$  square ft

**Step 3** Divide to find the number of gallons.  
 $512 \div 400 = 1.28$  gal

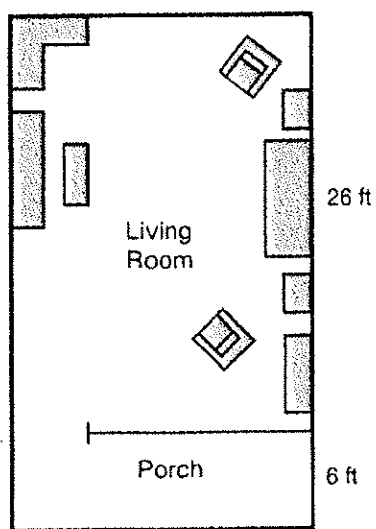
Since  $1.28 \text{ gal} > 1 \text{ gal}$ , you will need 2 gallons of paint.

**Step 4** Multiply to find the cost.  
 $2 \times \$16.85 = \$33.70$

The paint will cost \$33.70.



Denise hired a contractor to remodel her living room and porch. **Remodeling** means entirely rebuilding 1 or more rooms. **Contractors** often quote remodeling costs by the square foot.





**About It**

1. For rooms with 8-foot ceilings, why could you buy 1 gallon of paint for every 50 feet of perimeter?

\_\_\_\_\_  
\_\_\_\_\_

2. How could you use a scale drawing to decide where to put furniture?

\_\_\_\_\_  
\_\_\_\_\_

**Practice**

*Remember to estimate whenever you use your calculator.*

Find the perimeter of the room.

- 1. 14 ft by 15 ft \_\_\_\_\_
- 2. 9 ft by 12 ft \_\_\_\_\_
- ft by 15 ft \_\_\_\_\_
- 4. 12 ft by 18 ft \_\_\_\_\_

How many gallons of paint are needed to paint the walls? How much will the paint cost?

5. Room: 14 ft by 15 ft  
Ceiling: 8 ft  
Paint: \$13.95/gal  
\_\_\_\_\_

6. Room: 16 ft by 20 ft  
Ceiling: 8 ft  
Paint: \$17.05/gal  
\_\_\_\_\_

7. Room: 24 ft by 38 ft  
Ceiling: 8 ft  
Paint: \$10.65/gal  
\_\_\_\_\_

How much will the remodeling cost?

8. Room: 9 ft by 12 ft  
Cost: \$14/square ft  
\_\_\_\_\_

9. Room: 14 ft by 16 ft  
Cost: \$9/square ft  
\_\_\_\_\_

10. Basement: 12 ft by 24 ft  
Cost: \$10.50/square ft  
\_\_\_\_\_

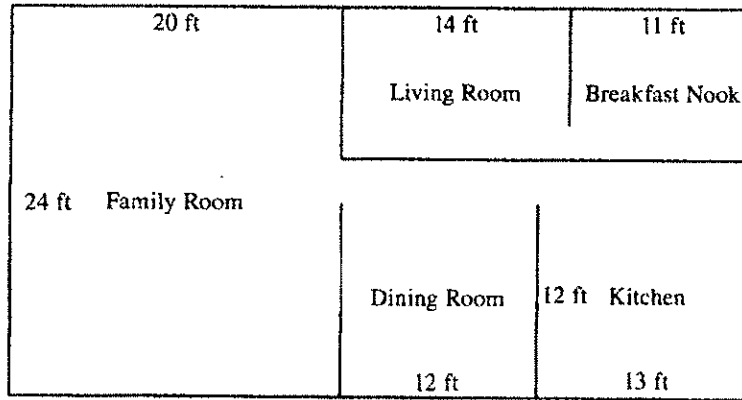
Name \_\_\_\_\_ Date \_\_\_\_\_

**Find the scale dimensions of the room.**

11. Room: 12 ft by 15 ft  
Scale: 1 in = 1.5 ft  
\_\_\_\_\_

12. Room: 15 ft by 20 ft  
Scale: 2 in = 5 ft  
\_\_\_\_\_

13. Room: 12 ft by 15 ft  
Scale: 5 cm = 2 ft  
\_\_\_\_\_



FIRST FLOOR All ceilings are 8 ft high.

**Use the scale drawing for Exercises 14–19.**

14. How many gallons of paint should be bought to paint the living room walls? How much would the paint cost at \$17.85 per gallon? \_\_\_\_\_
15. How many gallons of paint should be bought to paint the walls of all of the rooms? How much would the paint cost at \$16.35 per gallon? \_\_\_\_\_
16. How much would it cost to remodel the dining room at \$11.50 per square foot? \_\_\_\_\_
17. How much would it cost to remodel the entire first floor at \$9.20 per square foot? \_\_\_\_\_
18. What would be the scale dimensions of the family room if the scale were 1 in. = 1.5 ft?  
\_\_\_\_\_
19. What would be the scale dimensions of the entire first floor if the scale were 5 cm = 2 ft?  
\_\_\_\_\_

**Solve.**

20. Alan wants to buy a rug for a 6 yard by 4 yard room. The rug costs \$20.50 per square yard. How many square yards does he need? How much will the rug cost? \_\_\_\_\_
21. Charlene wants to put a rug in her 12 foot by 15 foot bedroom. The rug costs \$18.00 per square yard. How many square yards does she need? How much will the rug cost? \_\_\_\_\_

**Extension**

The new assessed valuation for a \$100,000 house is \$100,000. The annual tax on this house is \$3,200.  $\$3,200 \div \$100,000 = 0.032$ , or \$3.20 per \$100.

**Pages 104-106****Think About It**

- Renters don't have a mortgage and aren't required to carry insurance, so they may assume that the apartment complex has insurance covering the building.
- Losses due to theft or fire can be costly to replace.

**Practice**

- \$7,800
- \$39,000
- \$15,600
- \$3,900
- 10,950
- \$54,750
- \$21,900
- \$5,475
- \$8,764.50
- \$43,822
- \$17,529
- \$4,382.25
- \$2,500
- \$5,000
- \$5,000
- \$10,000
- \$7,500
- \$15,000

**Extension**

- 234,360
- 138,880
- 34,720
- 60,760
- Answers may vary.
- \$12,200
- \$61,000
- \$24,400
- \$6,100
- \$19,280
- \$96,400
- \$38,560
- \$9,640
- \$10,720

- \$53,600
- \$21,440
- \$5,360
- \$8,285
- \$41,425
- \$16,570
- \$4,142.50
- \$26,124
- \$130,620
- \$52,248
- \$13,062

**Pages 108-110****Think About It**

- Answers may vary.
- Answers may vary.

**Practice**

- 23,592 kWh
- 13,587 kWh
- 3,195 kWh
- 2,873
- \$141.64
- 1,201
- \$72.42
- 17,637
- \$419.76
- 7,581
- \$407.10
- \$82.89
- \$150.76
- \$30.60
- \$153.93
- 3.051
- \$43.87
- 2.134
- \$28.81
- 4.892
- \$54.94
- 4.809
- \$76.22

**Extension**

- \$1,073
- \$188.50
- \$145
- \$43.50

**Page 112****Problem Solving Application**

- \$84
- \$8.01
- \$306.60
- \$38.33
- \$124.80
- \$108
- \$1.24
- Clothes dryer

**Page 114****Problem Solving Application****Think About It**

- Answers may vary.
- Winter

**Practice**

- 486 gallons
- 30 months
- 48 months
- 729 gallons
- \$178.20
- \$623.70

**Pages 117-118****Think About It**

- For every 50 feet of perimeter, there is 400 square feet of wall. One gallon covers 400 square feet.
- Answers may vary.

**Practice**

- 58 ft
- 42 ft
- 56 ft
- 60 ft
- 2 gal; \$27.90
- 2 gal; \$34.10
- 3 gal; \$31.95
- \$1,512
- \$2,016
- \$3,024
- $l = 10$  in.;  $w = 8$  in.
- $l = 8$  in.;  $w = 6$  in.
- $l = 37.5$  cm;  $w = 30$  in.
- 2 gal; \$35.70
- 6 gal; \$98.10
- \$1,656
- \$9,936
- $l = 16$  in.;  $w = 13.3$  in.
- $l = 112.5$  cm;  $w = 60$  cm

*Decorating & Remodeling*

20. 24 square yd; \$492
21. 20 square yd; \$360

**Pages 119-120**

**Decision Making**

1. Intown Bank
2. People's Bank
3. Intown Bank
4. \$937.20
5. \$910.80
6. \$0
7. \$850
8. Fixed
9. A.R.M.
10. 30-year
11. 20-year
12. 5.25%
13. 5%

**Think About It**

1. Because the longer term means you pay much more in interest over the life of the loan.

**Page 121**

**Decision Making**

**Think About It**

1. National Bank (2) has the lower monthly payment, but the closing costs are so much higher than at People's Bank, that People's Bank is actually the better deal.

**Page 122**

**Decision Making**

1. The adjustable-rate mortgage has lower closing costs.
2. The adjustable-rate mortgage has the lower rate.
3. The adjustable-rate mortgage is cheaper because it is riskier. The rate might go up after 3

years.

4. Tim and Connie might choose the ARM because they know they will sell the house in 3 years.

5. Answers may vary.

**Pages 123-124**

**Money Tips**

1. 5-year ARM
2. 15-year fixed-rate mortgage
3. 30-year fixed-rate mortgage

**Think About It**

1. \$123 per month
2. \$34,836.41

**Pages 125-126**

**Estimation Skills**

- |        |         |
|--------|---------|
| 1. 20  | 2. 300  |
| 3. 100 | 4. 30   |
| 5. 10  | 6. 40   |
| 7. 200 | 8. 200  |
| 9. 800 | 10. 50  |
| 11. 5  | 12. 30  |
| 13. 20 | 14. 9   |
| 15. 50 | 16. 20  |
| 17. 6  | 18. 200 |
| 19. 5  | 20. 30  |
| 21. 30 | 22. 6   |
| 23. 60 | 24. 4   |
| 25. 2  | 26. 9   |
| 27. 6  |         |

**Pages 127-128**

**Part III Review**

1. c
2. b
3. a
4. \$420
5. \$1,100
6. \$133,000
7. \$228,850

8. \$85,000
9. \$460,000
10. \$1,004.64
11. \$67,500; \$471.83
12. \$6,520
13. \$194,400
14. \$89.37
15. \$124.10
16. 2 gal.
17. \$421
18. \$11,882.50

**Pages 129-130**

**Part III Test**

1. \$425.60
2. \$2,088.33
3. \$248,180
4. \$278,880
5. \$22,950; \$175,950
6. 1st year: \$72,450; \$410,550. 2nd year: \$61,582.50; \$348,967.5.
7. \$716
8. \$15,147; \$1057
9. \$1,767.05
10. \$2,383.50
11. \$1,249.60
12. \$4,043
13. \$184,000; \$6,053.60
14. \$149,175; \$6,101.26
15. \$68,500
16. \$16,700
17. \$155.42
18. \$55.60
19. 2
20. \$2,992