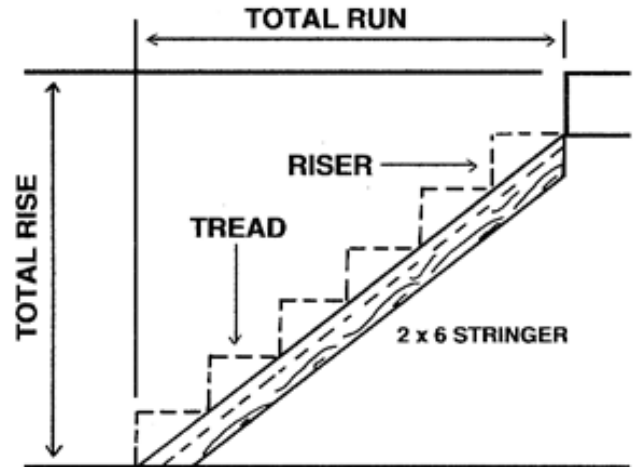


1. Page 35 #21. If  $\frac{1}{4}$  inch represents 1 foot on a drawing, how many feet are represented by  $10\frac{1}{8}$  inches?
2. Page 37 #9. If  $\frac{1}{4}$  inch on a drawing represents 1 foot, how many inches on the drawing represent 18 feet?
3. Page 43 #12. A carpenter accepts a job for \$575.00. Bills for materials and labor are \$113.52, \$287.61, and \$78.92. What is the profit?
4. Page 47 #7. If one square foot of wall requires 6.25 firebricks, find the approximate number needed for 33 square feet. Round your answer to the nearest whole firebrick.
5. Page 47 #9. Installing roofing on an irregular roof is estimated to take 2.6 hours per square. How long will it take to lay 14.4 squares?
6. Page 47 #10. The material needed for a counter is estimated to be 81.9 board feet, at a cost of \$3.15 per board foot. What is the total cost of the material?

7. For a flight of stairs with a total rise of 109”:

- a. Estimate how many risers you will need for this flight of stairs (recall that Wisconsin code requires risers to be no greater than 8 inches). Write down your estimate and show or explain your strategy.



- b. What is the height of each riser?
- c. How many risers will the flight of stairs have?

8. You’re putting up a fence along one side of your back yard, and you want the slats in the fence to be no more than 2 inches apart. You also want to spend the least amount of money possible on materials. Use the information in the fence pickets image to answer the following:

- a. If you need a total of 12 feet of fencing, determine the number of the fence pickets (hint: treat this as a baluster problem) needed.

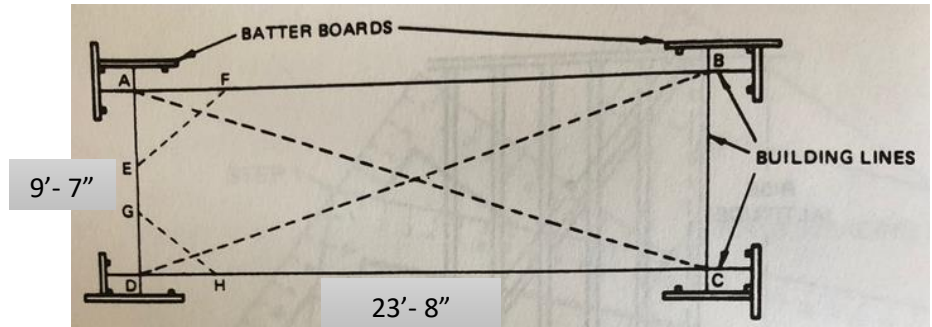


- b. How much will it cost if you get an 8% contractor discount (before tax), and pay 5.5% in tax?

**Hampton Lumber** 5/8 in. x 3-1/2 in. x 6 ft. Kiln Dried Cedar Wood Dog-Ear Fence Picket  
 Model# 778-735  
 ★★★★★ (11)  
**BULK PRICE** \$1.75 /piece  
 Buy 360 or more \$1.66

9. You need to confirm that the wall layout is square for the building below. How do you do that and what is the measurement you need to find?

a. Explain

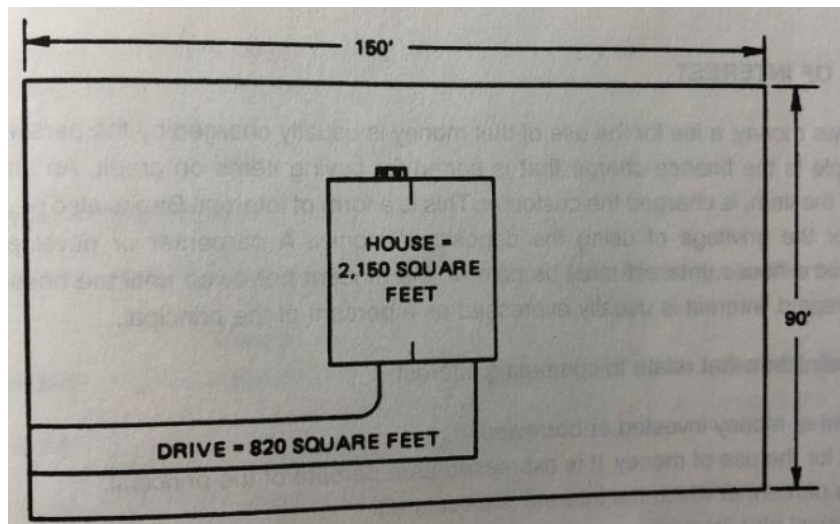


b. Do the Calculation

10. Page 53 #10. The actual width of a pine board is  $7 \frac{1}{4}$  inches. Write the width in decimal form.

11. Page 53 #13. Find the approximate thickness in common fraction form of a piece of siding 0.4375 inch thick.

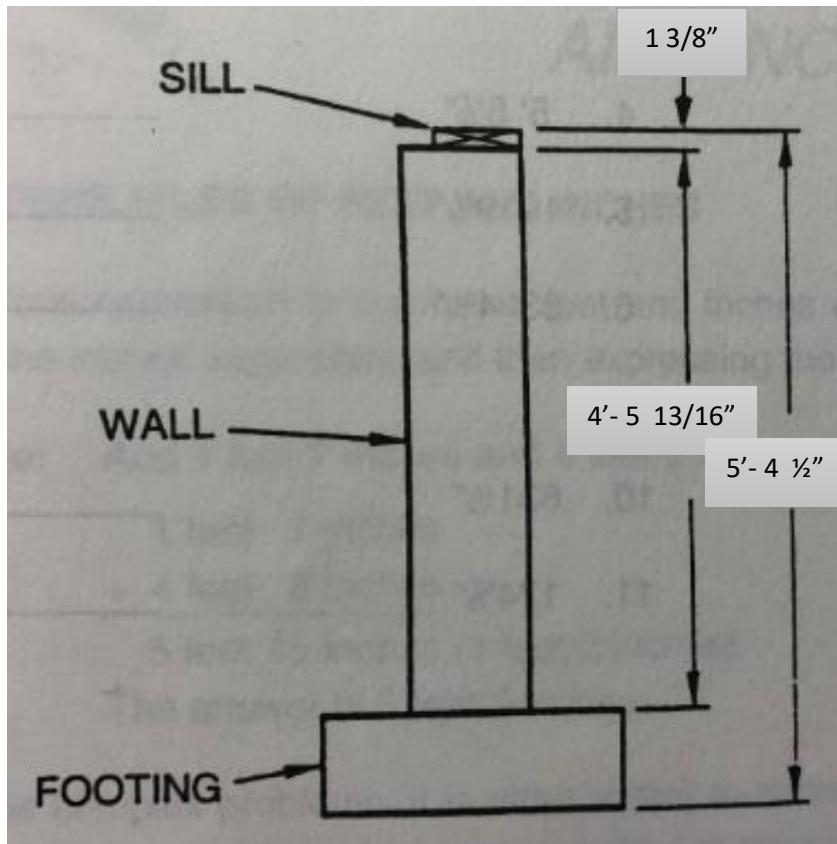
12. Page 63 #32. What percent of the lot illustrated is taken up by the house and driveway? Note: Area of a rectangle = length x width



13. The pitch per foot of a driveway is  $\frac{1}{2}$ ".
- What is the fall for 25' of driveway?
  - What is the % slope of this driveway?
14. Page 65 #8. A bank loans \$44,250 to a contractor at a rate of 9% per year. What is the interest payment for the first year?
15. Page 69 #1. List price is \$5,670, and discount is 12% of this price. Find the cost.
16. Page 69 #8. Cost is \$15.86 after taking 35% off of the catalog price. Find the catalog price.
17. Page 69 #14. When the amount paid is \$154 after a 15% discount is allowed, determine the original amount of the bill.

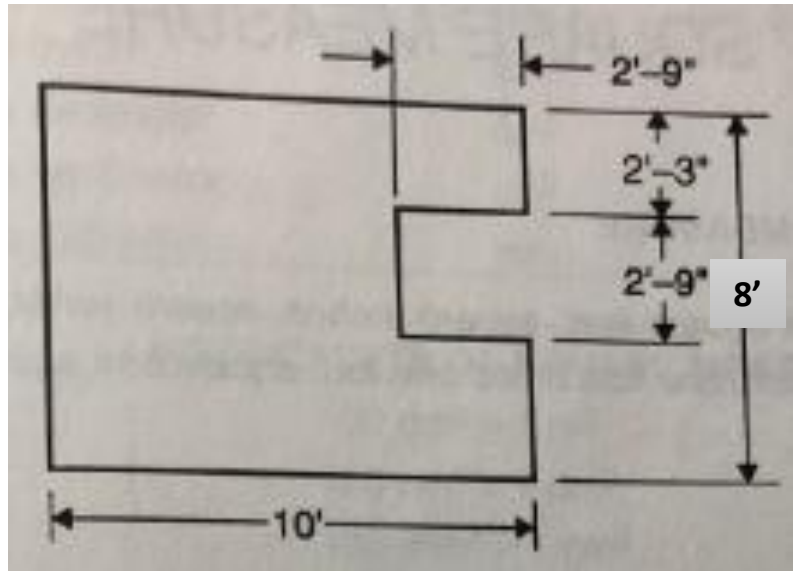
18. Page 71 #25. A contractor purchases oak lumber for \$1,400, less 2% discount; yellow pine for \$596, less 2% discount; and white pine for \$896.50, less 1% discount. What is the total amount of the bill?

**NO CALCULATOR for 19 and 20 and 21 below**

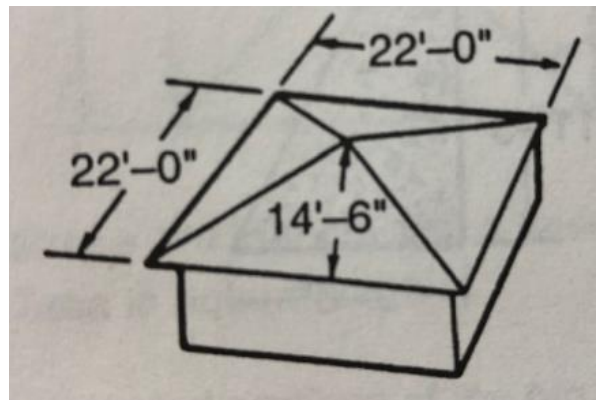


19. Page 82 #17. What is the combined height of the wall and the sill?
20. Page 82 #18. What is the height of the footing?
21. Page 82 #19. How much would have to be cut from the end of a 12 foot piece of lumber to leave a piece 8 feet 5 inches long

22. Page 83 #22. Find the perimeter of the house footprint below

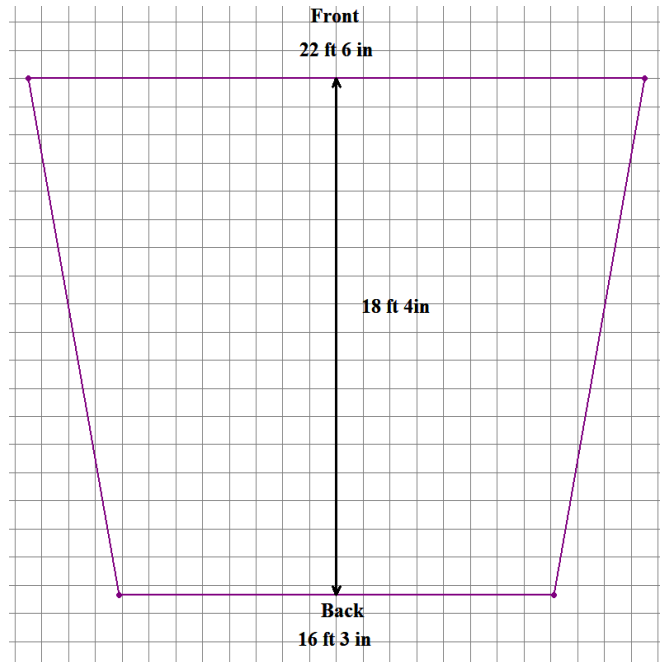


23. Page 89 #5. What is the area of the hip roof shown (all 4 sides) if the length of one side is 22 feet and the common rafter length is 14 feet 6 inches as shown in the image below.



24. You are helping a friend re-tile their bathroom. You measure the bathroom and draw out the size below.

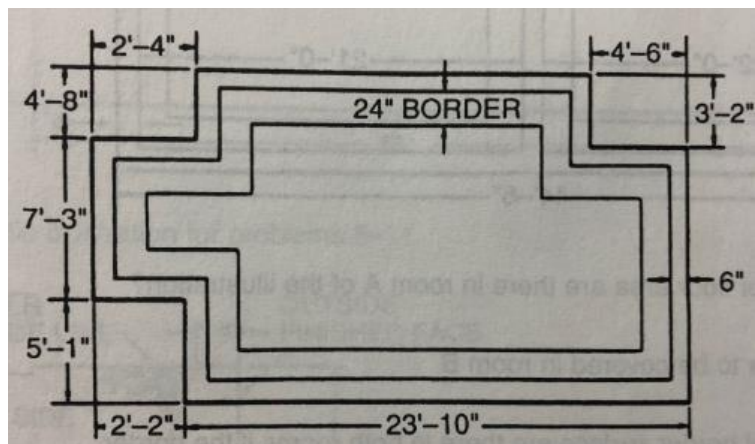
- a. What is the area of the bathroom?
- b. If you measure the diagonals, will they be equal? Explain your answer



- c. The tiles come in boxes of twenty-four 10" by 10" tiles. The wholesale price is \$15.60 per box. How much will you spend on the tiles? Assume 10% for waste and 5.5% for tax

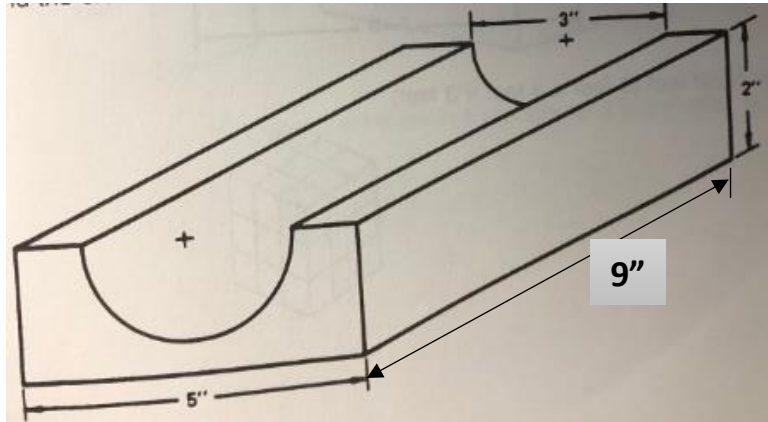
25. Page 97 #3. The plan shown has walls 6 inches thick. A 24-inch border of light-colored carpet is installed around the entire floor as shown in the image below.

- a. Determine the area included within the walls



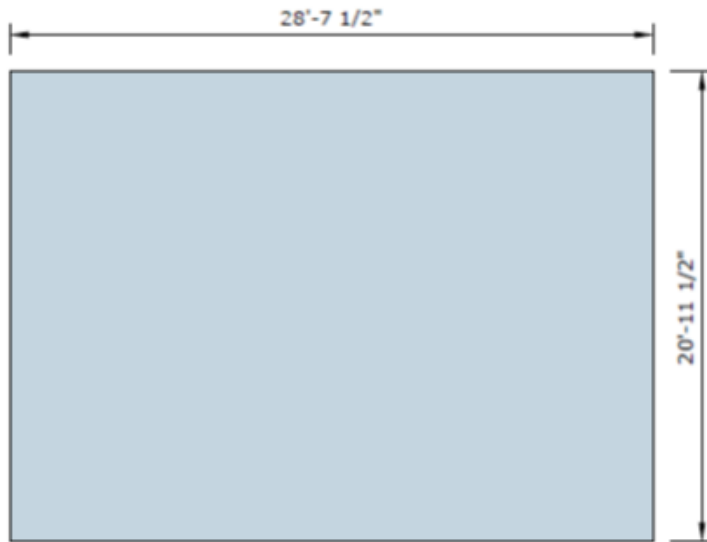
- b. Find the area of the 24-inch wide light-colored border carpet

26. Page 103 #13. Use the illustration of the wooden block below to answer the following questions.
- Find the cross-sectional area of the block



- Find the volume of the block

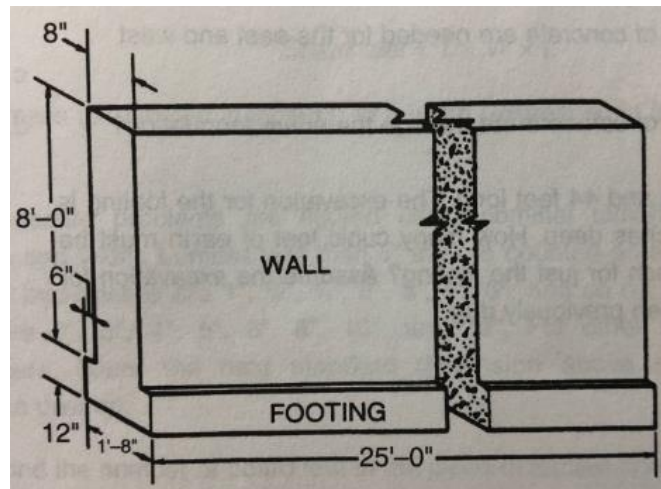
27. Answer the following questions for the concrete slab shown below.



- What is the area of the concrete slab?
- What is the perimeter of the slab?
- If you are need to pour the slab to a depth of  $3\frac{1}{2}$ " , how many cubic yards of concrete will you need to order? Include 10% waste factor in your calculation.



28. Page 107 #17. The illustration shows a section of a concrete foundation wall and footing. How many cubic yards of concrete does it contain? Round answer to the nearest tenth of a yard.



29. Page 152 #1. How many square feet of sheathing are required to cover a wall 8 feet by 26 feet? Make no allowances for openings, but do allow 10% for waste.
30. Page 159 #7. A roll of roofing paper covers an area of 100 square feet. How many rolls are needed for a shed roof measuring 12 feet by 16 feet? Do not allow for waste.
31. Page 165 #8. Determine the number of rolls (400 square feet per roll) of builder's felt needed to cover the walls of a house measuring 28 feet by 46 feet by 9 feet