



BUILDING CONSTRUCTION

Flexible Instruction Day

Assignment #4

Learning Standard	Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc
Task # & Description	BC Trades 46.9999 Task List #1802 Calculate Stair Layout and Cut Stringers Stair Layout

CONTACT INFORMATION/ASSISTANCE

Instructor Name: Ron Sankey

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I will be available by email and the Remind app from 7:40-12, and 12:30-3:10 to answer your questions. Please reach out if you are having difficulty completing your assignments.

INSTRUCTIONS

- ✓ All work is due on the day we return to school. This is counted towards your attendance **and** as a classroom assignment.
- ✓ Follow specific instructions on assignment.

Name: _____

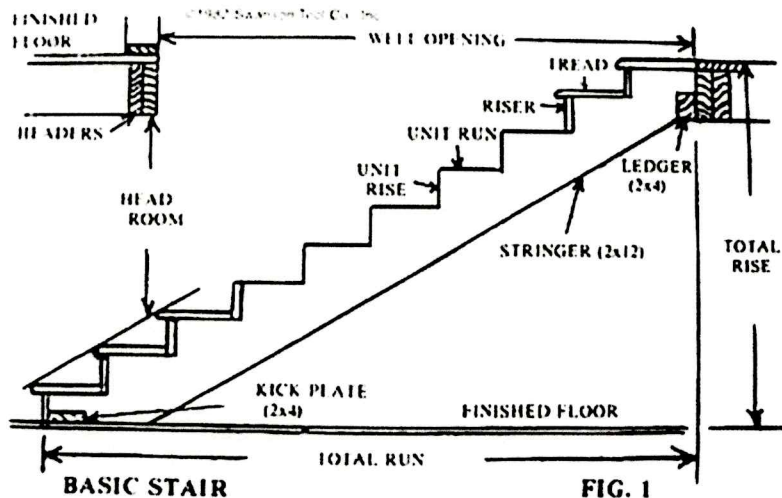
Session: _____

____/____ points

Stair Layout Instructions

BASIC STAIRWAY LAYOUT

1. Draw your complete stairway on paper! It's a lot easier to erase pencil lines than to tear out wood.
2. The sum of all unit runs (tread less nosing) = TOTAL RUN
3. The sum of all unit risers = TOTAL RISE (measured from FINISHED floor to FINISHED floor).
4. As the angle of a stairway changes, so does the riser-tread ratio.
5. Three general rules for Riser-Tread Ratio (excluding Tread nosing, which extends 1 in. to 1 1/2 in. beyond riser):
 - a. Rise plus tread width = 17 in. to 18 in.
 - b. Rise times tread width = 72 in. to 76 in.
 - c. Sum of two risers plus tread width = 24 in. to 25 in.
6. An "ideal" ratio is 7 in. rise and 10 in. tread. These dimensions may vary slightly if the rise and/or run of a stairway must be held within certain limits.
7. Avoid going more than 8 1/4 in. rise or less than 9" wide tread. Try to keep around the 34° to 37° angle.
8. A main stairway should be at least 36 in. wide, or even 42 in. if possible, with 6 ft. 8 in. headroom. This width and height is needed for moving furniture as well as people.
9. Handrails should be 30 in. to 34 in. above nosing of steps, and 34 in. high on landings.



Stair Layout Worksheet

Name: _____

With the numbers below, determine the riser height, number of risers, and number of treads. Please show all three calculations that helped you determine your final answer.

Total Rise	Riser Height	# of Risers	# of Treads
70 ½"			
103 ¾"			
9'			
32"			

67 ¼"			
78 ½"			
97 5/8"			
86"			
60 ½"			
23 ¾"			