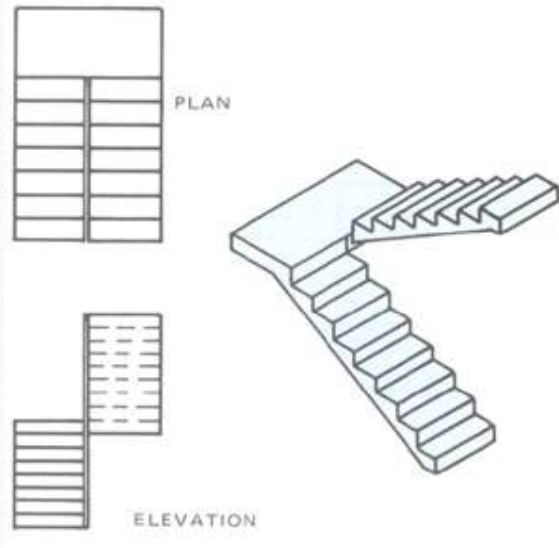


Basic Stair Layout

Preparation for NCCER Exam 27110-06

Stair Shapes

- Narrow-U shaped stairway



Geometrical Stairways

- Circular



- Elliptical



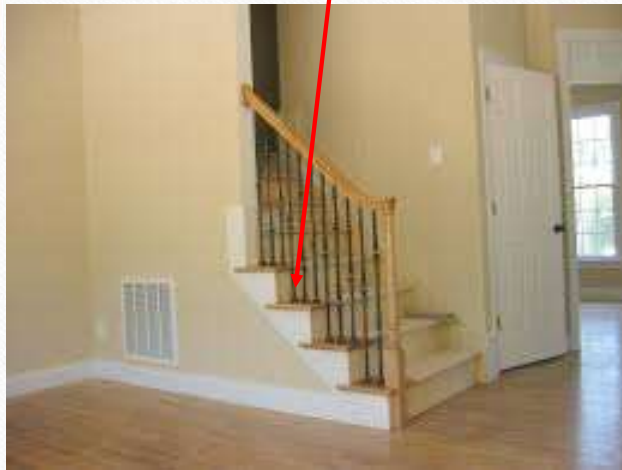
- Spiral



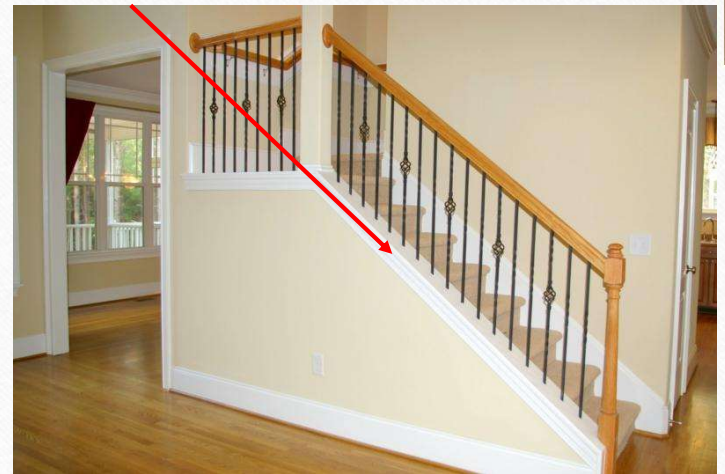
Parts of a Stairway

- Cutout Stringer

- This:

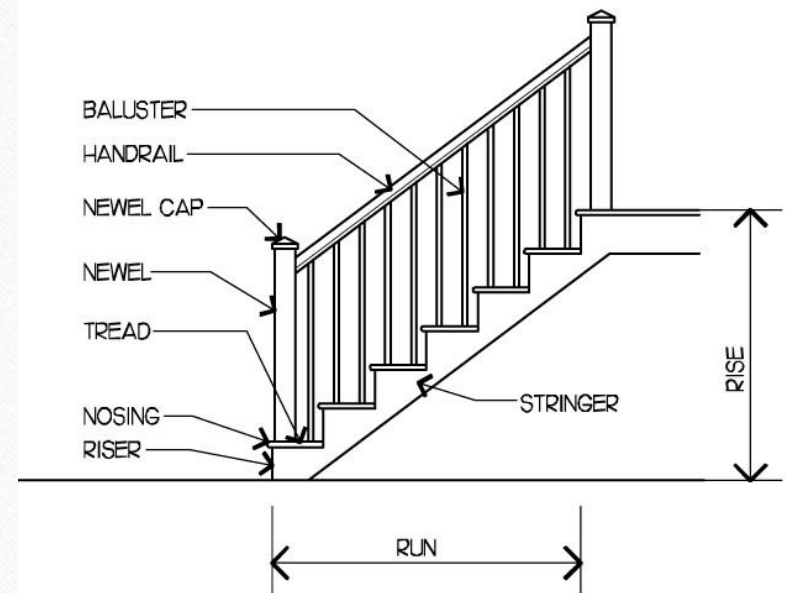


- Not this:



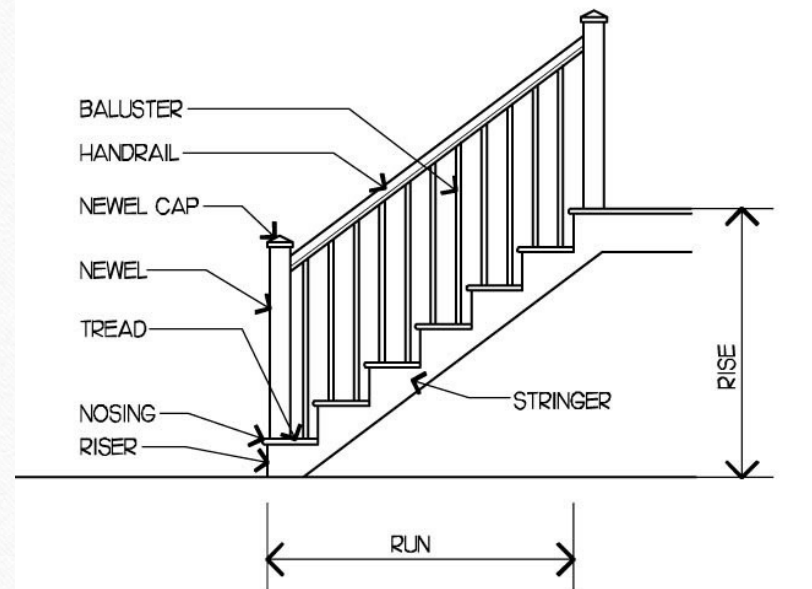
Parts of a Stairway

- Riser



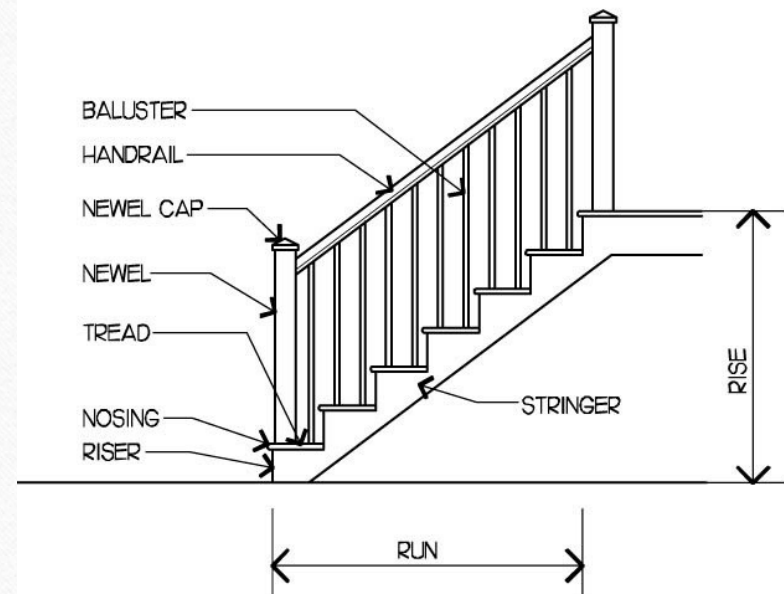
Parts of a Stairway

- Treads



Parts of a Balustrade

- Baluster
- Newell Post
- Handrail



Parts of a Stairway

- Nose Return



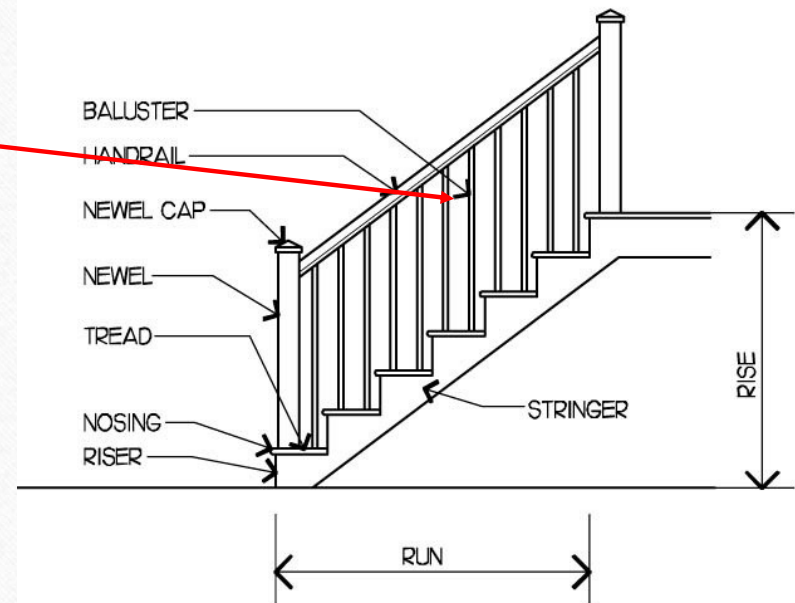
Parts of a Stair Trim

- Skirtboard
- (also called closed stringer, finish stringer, trim stringer)



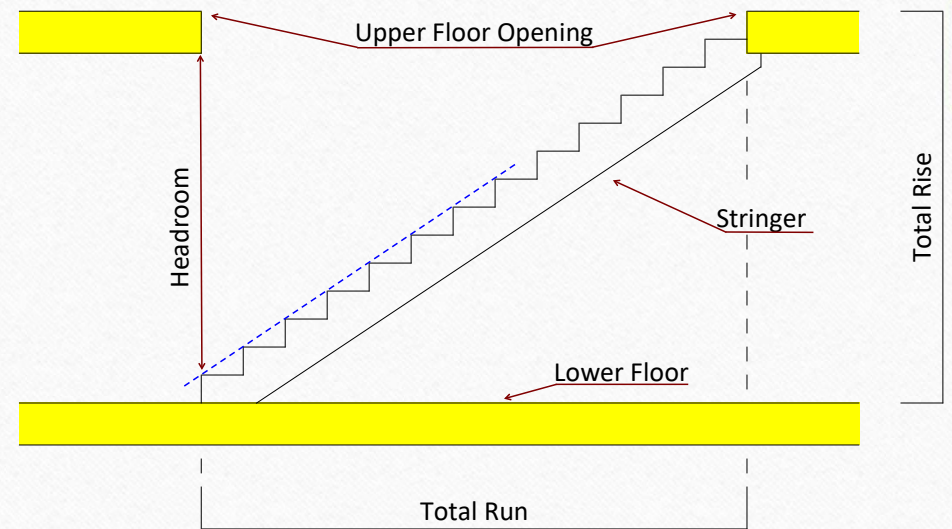
Parts of a Balustrade

- Baluster



Headroom

- The minimum standard headroom for commercial use is **6' – 8"**.



Making Calculations

- When building a stair with a total rise of 7' – 7", the number of risers required and their unit rise is **13 risers, each 7" high.**
 - $7' - 7" = 91"$ (convert total rise to inches)
 - $91 \div 7 = 13$ risers (divide by 7" – the typical unit rise for stairs.)
(this gives the total number of rises)
 - $91" \div 13 = 7"$ each (divide by the total number of rises)
(this gives you the *unit rise*)

Making Calculations

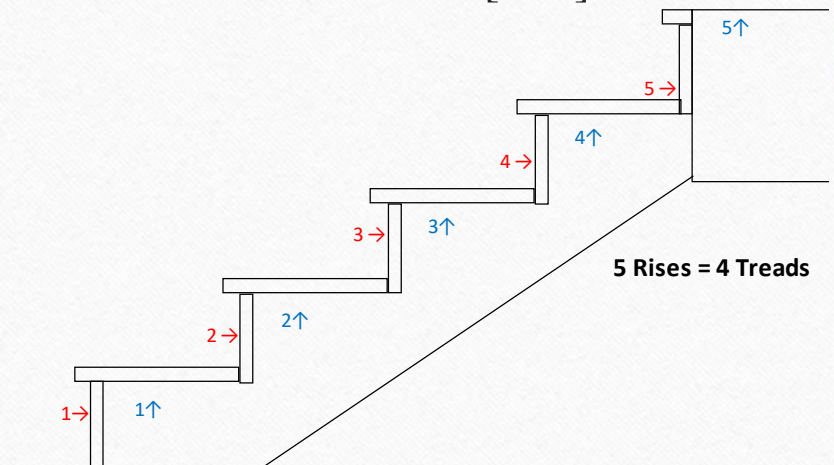
- A stair with a total rise of 7' – 7" and a total run of 9' – 0", with the stairwell header used as the last rise, requires **12 treads** with a **9"** [unit] run.

- Rises

- $7' - 7'' = 91''$
- $91'' \div 7 = 13$ rises
- $91'' \div 13 = 7''$
- 13 rises = 12 treads

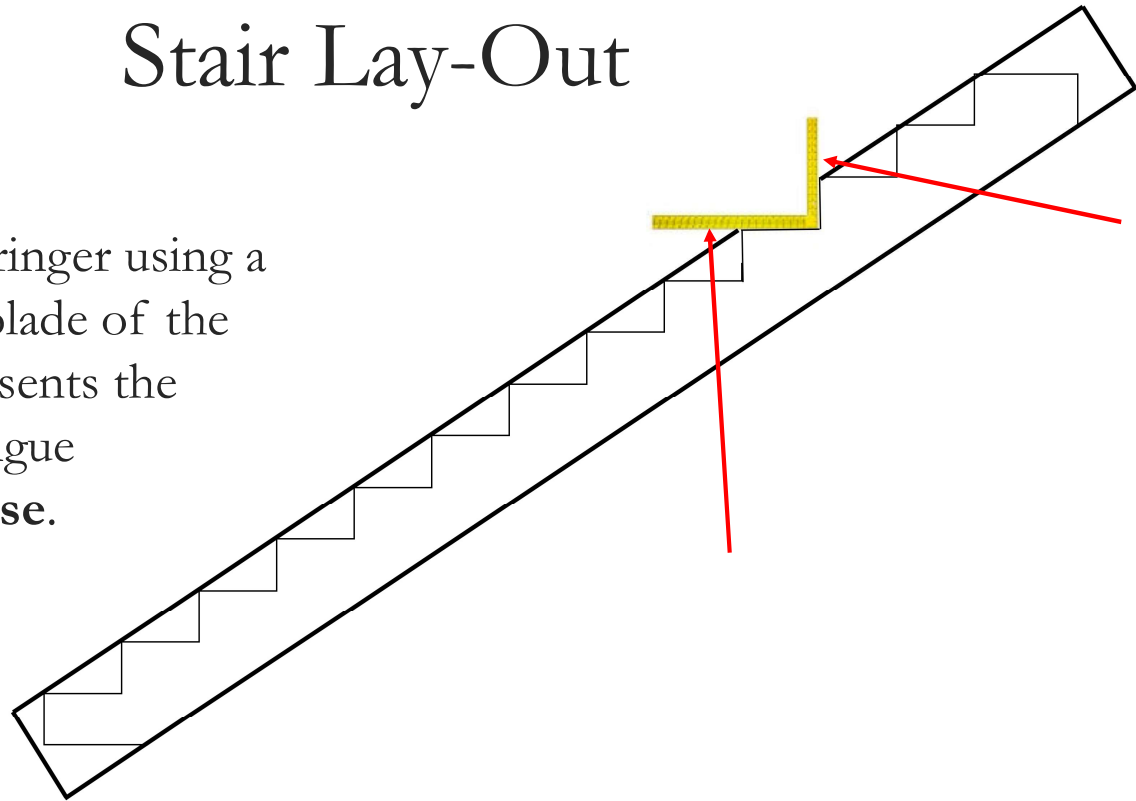
- Runs

- $9' - 0'' = 108''$
- $108 \div 12 = 9''$



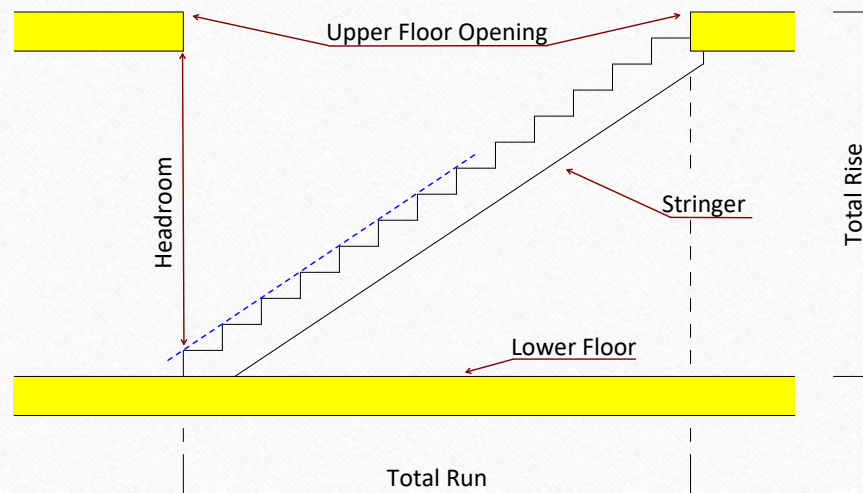
Stair Lay-Out

- When laying out a stringer using a framing square, the blade of the framing square represents the unit **run**, and the tongue represents the unit **rise**.



Limitations

- The maximum rise for a set of stairs *without* a landing is typically **12** feet.



Measurements

- Tread run (unit run) is measured from the **face of one riser** to the **face of the next**.

