Stair design

6' Level or Straight Edge

Deck Floor

38 ¾"

37 ¼"

5'6" Run

Sloping Grade

✗

Point Where Steps Will Start
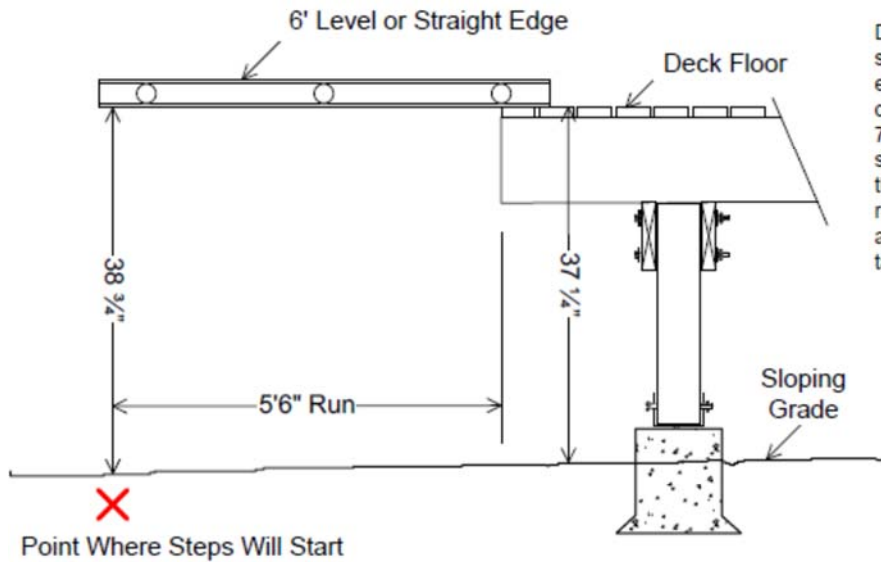
Determine total rise at point where steps will start, not at the deck. In this example, 5 steps would get a total rise of 38 ¾" (7 ¾" is the max riser, so 5 x 7 ¾" = 38 ¾" total rise). Commercial steps cannot exceed 7" in rise; therefore, a 38 ¾" total rise would require 6 risers (38 ¾" / 6 = 6.45 or approximately 6-7/16" per rise). See table to convert decimals to fractions.
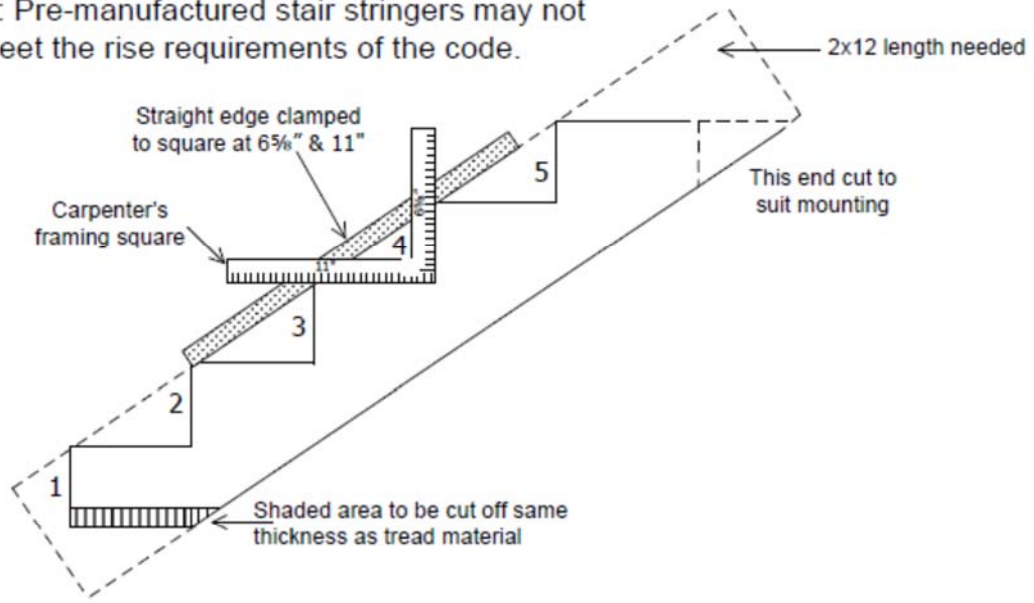
| Table	
.06" = 1/16"	.56" = 9/16
.13" = 1/8"	.63" = 5/8"
.19" = 3/16"	.69" = 11/16"
.25" = 1/4"	.75" = 3/4"
.31" = 5/16"	.81" = 13/16"
.38" = 3/8"	.88" = 7/8"
.44" = 7/16"	.94" = 15/16"
.50" = 1/2"	

Riser

11 ½" Tread

5 ½"   ½"   5 ½"
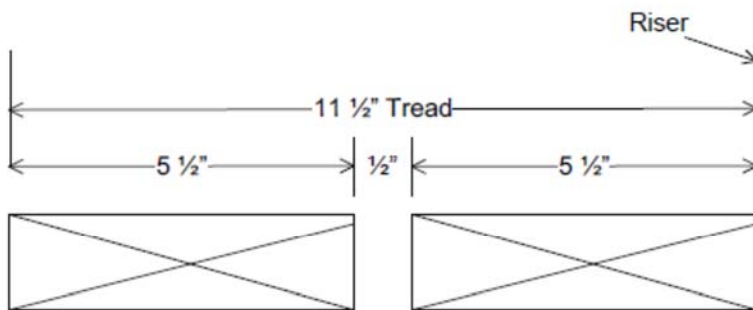
Know what you want to use for tread material & determine your run. Remember that minimum residential run is 10"; minimum commercial run is 11".

Note:
* Risers will be equal in size to within ⅜"
* There is always one less run total than required risers

NOTE: Pre-manufactured stair stringers may not
meet the rise requirements of the code.

2x12 length needed

Straight edge clamped
to square at 6⅝" & 11"

Carpenter's
framing square

This end cut to
suit mounting

5

4

3

2

1

Shaded area to be cut off same
thickness as tread material

Finished step with one riser at deck
for a total of 6 risers

Deck floor

6

5

Risers will be equal in
Size to within ⅜"

4

3

2

1

Grade
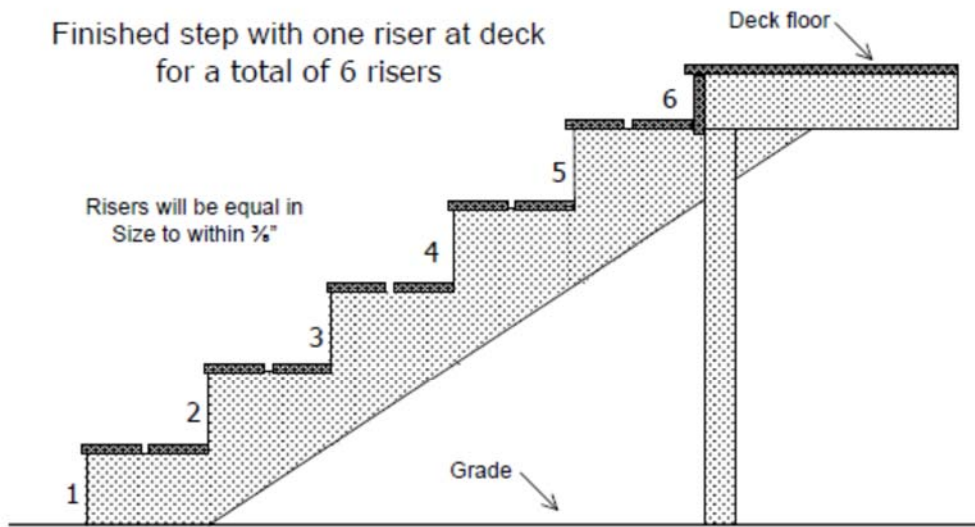
Handrails & guardrails required but omitted for clarity