

STAIR RISE AND RUN CHART

Every total rise from two feet to twelve, with the riser count that keeps each step in code range, the total run it needs, and the stringer that has to reach.

A stair is designed backwards from one measurement: the total rise, floor to floor. Divide it by a target riser height near seven inches, round to a whole number of risers, and divide back to get the actual riser height. Every other number follows.

Treads are always one fewer than risers on a normal flight, because the top riser lands on the floor above rather than on a tread. The run in this table uses a 10.5 inch tread, which is the common figure for a 1 inch nosing over a 2x12 or a standard stair tread.

Risers, run and stringer by total rise

Total rise	Risers	Riser height	Treads	Total run	Stringer, minimum
24 in	4	6 in	3	31.5 in	3.3 ft
28 in	4	7 in	3	31.5 in	3.51 ft
32 in	5	6.4 in	4	42 in	4.4 ft
36 in	5	7.2 in	4	42 in	4.61 ft
40 in	6	6.67 in	5	52.5 in	5.5 ft
44 in	6	7.33 in	5	52.5 in	5.71 ft
48 in	7	6.86 in	6	63 in	6.6 ft
52 in	7	7.43 in	6	63 in	6.81 ft
56 in	8	7 in	7	73.5 in	7.7 ft
60 in	8	7.5 in	7	73.5 in	7.91 ft
64 in	9	7.11 in	8	84 in	8.8 ft
68 in	9	7.56 in	8	84 in	9.01 ft
72 in	10	7.2 in	9	94.5 in	9.9 ft
76 in	10	7.6 in	9	94.5 in	10.11 ft
80 in	11	7.27 in	10	105 in	11 ft
84 in	11	7.64 in	10	105 in	11.21 ft
88 in	12	7.33 in	11	115.5 in	12.1 ft
92 in	12	7.67 in	11	115.5 in	12.31 ft
96 in	13	7.38 in	12	126 in	13.2 ft
100 in	13	7.69 in	12	126 in	13.41 ft
104 in	14	7.43 in	13	136.5 in	14.3 ft
108 in	14	7.71 in	13	136.5 in	14.5 ft
112 in	15	7.47 in	14	147 in	15.4 ft

Total rise	Risers	Riser height	Treads	Total run	Stringer, minimum
116 in	15	7.73 in	14	147 in	15.6 ft
120 in	16	7.5 in	15	157.5 in	16.5 ft
124 in	17	7.29 in	16	168 in	17.4 ft
128 in	17	7.53 in	16	168 in	17.6 ft
132 in	18	7.33 in	17	178.5 in	18.5 ft
136 in	18	7.56 in	17	178.5 in	18.7 ft
140 in	19	7.37 in	18	189 in	19.6 ft
144 in	19	7.58 in	18	189 in	19.8 ft

At a 10.5 inch tread. Stringer length is the straight line hypotenuse and is a minimum, before the notch at the top or the cut at the bottom.

Every figure on this sheet was produced by the same calculator that runs at contractorhandbook.com, free and with no signup.

These are estimating figures for ordering and pricing, not engineering. Nothing here sizes a structural member, checks a load, or replaces local code, a permit, or a manufacturer's installation instructions. Where a rule of thumb is doing the work it is written into the notes under each table rather than hidden.