

PLANTING ORCHARDS, GARDENS, ETC.

Trees required to plant an acre of land.

Distance. feet, in.	No.	Distance. feet, in.	No.	Distance. feet, in.	No.
1 0 ... ..	43,560	6 0 ... ..	1,210	12 0 ... ..	302
1 6 ... ..	19,360	6 6 ... ..	1,031	13 0 ... ..	258
2 0 ... ..	10,890	7 0 ... ..	889	14 0 ... ..	223
2 6 ... ..	6,960	7 6 ... ..	775	15 0 ... ..	194
3 0 ... ..	4,840	8 0 ... ..	680	16 0 ... ..	171
3 6 ... ..	3,556	8 6 ... ..	602	17 0 ... ..	151
4 0 ... ..	2,722	9 0 ... ..	538	18 0 ... ..	135
4 6 ... ..	2,151	9 6 ... ..	482	19 0 ... ..	121
5 0 ... ..	1,742	10 0 ... ..	436	20 0 ... ..	109
5 6 ... ..	1,440	10 6 ... ..	361	21 0 ... ..	99

CUBIC, OR SOLID MEASURE.

1728 inches ... ..	make ... ..	1 solid foot
27 feet ... ..	... ..	1 solid yard
40 feet of rough, or 50 feet of hewn timber ... ..	... ..	1 ton or load
42 feet ... ..	... ..	1 ton of shipping
1 yard of earth ... ..	... ..	1 load

Thus, a CORD of wood is 4 feet broad, 3 feet deep, and 8 feet long, being 128 cubic feet.—A STACK of wood is 3 feet broad, 3 feet deep, and 12 feet long, being 108 cubic feet.

The dimensions of timber, stone, excavations, and all works which have length, breadth, and thickness, are taken by lineal measure: but the contents are calculated by cubic measure.

A CUBE is a solid body, and contains length, breadth, and thickness. A cubic number is produced by multiplying the simple number twice into itself: thus, 343 is a cube number, being produced by multiplying the number 7 twice into itself; as,  $7 \times 7 \times 7 = 343$ .

TO MEASURE UNSQUARED TIMBER.

In order to ascertain the contents, multiply the square of the quarter girth, or of  $\frac{1}{4}$  of the mean circumference, by the length. When the buyer is not allowed his choice of girth in taper trees, he may take the mean dimensions, either by girthing it in the middle for the mean girth, or by girthing it at the two ends, and taking half of their sum. If not, girth the tree in so many places as is thought necessary, then the sum of the several girths divided by their number, will give a mean circumference, the fourth part of which being squared, and multiplied by the length, will give the solid contents.

The *Superficial Feet in a Board or Plank* is known by multiplying the length by the breadth. If the board be tapering, add the breadth of the two ends together, and take half their sum for the mean breadth, and multiply the length by this mean breadth.

The *Solid Contents of Squared Timber* are found by measuring the mean breadth by the mean thickness, and the product again by the length. Or multiply the square of what is called the quarter girth, in inches by the length in feet, and divide by 144, and you have the contents in feet.

Boughs, the quarter girth of which is less than 6 inches, and parts of the trunk less than 2 feet in circumference, are not reckoned as timber.

$\frac{1}{4}$  inch in every foot of quarter girth, or  $\frac{1}{4}$  of the girth, is allowed for bark, except of elm. 1 inch in the circumference of the tree, or whole girth, or  $\frac{1}{2}$  of the quarter girth is the general fair average allowance.

The quarter girth is half the sum of the breadth and depth in the middle.

The nearest approach to truth in the measuring of timber, is to multiply the square of  $\frac{1}{4}$  of the girth, or circumference, by double the length, and the product will be the contents.

CARPENTRY TABLES.

The square of 10 feet—100 superficial feet;—100 superficial feet—1 square of boarding, flooring, &c. 38 deals, 12 feet long,  $2\frac{1}{2}$  inches thick, make 1 ton.

Ten feet boards to a Square.

24 boards 5 inches broad	15 boards 3 inches broad
20 — 6 inches broad	13 — 9 inches broad, add 2ft. 6in.
17 — 7 inches broad, add 1 foot	12 — 10 inches broad

Twelve feet boards to a Square.

20 boards 5 inches broad	12 boards 8 inches broad, add 4 feet
16 — 6 inches broad, add 4 feet	11 — 9 inches broad, add 1 foot
14 — 7 inches broad, add 2 feet	10 — 10 inches broad
13 12 feet deals	1 square of wrought flooring
$12\frac{1}{2}$ 12 feet deals	1 square of rough flooring
14 12 feet battens	1 square of wrought flooring

BRICKLAYING TABLES.

1 square yard of clay makes 460 bricks.  
1 burnt brick is 9 inches long,  $4\frac{1}{2}$  inches wide,  $2\frac{1}{2}$  inches thick, and weighs 4 lbs. 15 oz.

- 32 bricks cover a square yard
- 16 bricks 1 foot of reduced brickwork.
- 7 bricks 1 foot superficial marle facing, laid Flemish bond.
- 10 bricks 1 foot superficial gauged arching.
- 272 superficial feet 1 rod of reduced brickwork,  $1\frac{1}{2}$  brick thick.
- 306 cubic feet 1 rod.
- 450 stock bricks 1 ton.
- 1 rod of brickwork 13 tons.
- 500 bricks 1 load.

Brickwork is generally measured by the rod of  $16\frac{1}{2}$  feet, or  $272\frac{1}{2}$  square feet. Brickwork is estimated at  $1\frac{1}{2}$  brick thick, which is called the standard thickness. To reduce cubic feet to the standard, multiply by 8, and divide by 9.

If a wall be more or less than the standard, multiply the superficial contents of the wall by the number of half bricks in the thickness, and divide the product by 3.

36 bushels of cement, and 36 of sand, for	1 rod of brickwork
$2\frac{1}{4}$ ————— 1 yard, or 9 superficial feet	$1\frac{1}{2}$ brickwork
$\frac{1}{2}$ —————	of pointing.
$\frac{1}{4}$ —————	of plastering.

Lime, newly slaked ... ..	1 part	} is considered the best proportions for good mortar.
Fine sand ... ..	3 parts	
Coarse sand ... ..	4 parts	
1 hundred of lime ... ..	26 struck bushels.	
2 ————— $57\frac{2}{3}$ cubic feet	1 chaldron.	
1 —————	100 pecks.	
18 nearly, heaped bushels	1 square yard, or load.	
22 nearly, struck bushels	1 square yard, or load.	
$\frac{1}{2}$ hundred lime, with sand proper	1 load.	
27 bushels of chalk lime, and 3 loads of sand for	1 rod of brickwood.	
18 bushels of Dorking, Merstham, or Guildford	} 1 rod of brickwork.	
stone lime, and $3\frac{1}{2}$ loads of sand for		
1 hod of mortar, nearly half a bushel.		