Estimating Brick Courses
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The purpose of this lesson is to teach you how to estimate the number of courses in a brick wall. The first thing we must do is define the terms used.

Course - A course is a brick and bed joint.

Bed Joint - A bed joint is the mortar the brick lies on.

For every brick you lay there must be a bed joint to lay it on.

The brick and bed joint make a course. The number of courses is what you will learn to estimate.

To get the measurement of one course, measure the height of the brick and the thickness of the joint and add them together.

The brick is 2-1/4 inches tall and the mortar joint is 1/2 inch thick. Added together, the total height of the course is 2-3/4 inches.

\[2 \frac{1}{4}” + \frac{1}{2}” = 2 \frac{3}{4}”\]
Now, let’s put that information to use. Suppose you are to build a wall for a flower bed that is to be 5 and 1/2” high. How many courses would you need to lay?

We have already determined that one course is 2-3/4”, so divide the total height by the height of one course.

\[
5-1/2” \div 2-3/4” = 2
\]

Suppose the desired height of the wall is 11”. How many courses would be needed?

\[
11” \div 2-3/4” = _____
\]

The answer is 4. All you did was divide the height of the wall by one course.

All courses are figured the same way. The only thing that will change is the height of one course because bricks, blocks or whatever you’re building with will be different sizes, and mortar bed joints vary in thickness.

The height of the wall and the thickness or height of the brick and mortar bed joint can be found on the blueprints.

**Remember**

There are two steps to estimate the number of courses needed.

1. Figure the height of the brick and the mortar joint to find the height of the course.

2. Divide the height of the wall by the height of the course.
Let's try a practice problem.

Wall height: 96 inches
Brick height: 2-1/4 inches
Mortar joint height: 1/2 inch

First, find the height of one course by adding the brick height and the mortar joint height.

\[ 2\frac{1}{4}'' + \frac{1}{2}'' = 2\frac{3}{4}'' \]

The height of one course is 2-3/4”.

Second, find the number of courses in the wall by dividing the height of the wall by the height of one course.

\[ 96'' \div 2\frac{3}{4}'' = \square \]

To divide a fraction into a whole number:

Make the whole number a fraction (put it over a 1) -

\[ 96 \text{ becomes } \frac{96}{1} \]

Convert the mixed number (2-3/4) into a fraction -

The whole number x the bottom fraction (denominator) + the top number (numerator)

\[ 2 \times 4 = 8 + 3 = 11 \]

Put the answer under the original denominator

\[ \frac{4}{11} \]

And change the division sign to multiplication. Now your problem looks like this:

\[ \frac{96 \times 4}{1 \times 11} \]
Multiply the top numbers, then the bottom numbers -

\[
\begin{array}{c|c|c}
\times & 4 & = 384 \\
1 & 11 & 11 \\
\end{array}
\]

Reduce the answer by dividing the denominator into the numerator -

\[
\frac{384}{11} = 384 \div 11 = 34-10/11
\]

Always round your answer up to the next highest whole number -

\[
34-10/11 = 35
\]

You will need 35 courses to complete a 96” wall.

Now try on your own.

Suppose you find that the wall you are going to build is 252 inches high, and the brick is standard brick (2-1/4”) and the mortar joint is 5/8”.

How many courses are needed to construct this wall?