

So Much Math at the Saw Mill

Doug Cate

BEFORE YOU READ: What math do you think you would need to know to work in a saw mill? Consider the word “tally.” Name some synonyms.

I started working in a saw mill when I was 16 years old. That was 39 years ago. (MATH!)

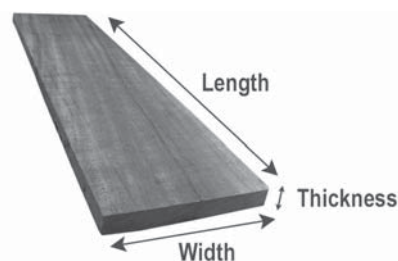
I started packing lumber, and the boards had to be packed according to their width and up to a certain height. (MATH!)

I was taught how to tally the board footage per bundle. There was a formula for how to do that: multiply the height x width x length. (MATH!)

After I turned 18, I learned how to use the saw. When sawing, I had to remember to account for the saw kerf, which was $\frac{1}{4}$ inch. The “kerf” is the width of the saw blade, and it tells you the amount of the board that you lose in the cutting process. For example, if I needed an 8-inch board, I had to add $\frac{1}{4}$ inch because that’s how much of the board would be turned to saw dust. (MATH!)

At some point, we had a band saw installed. This would cut a board with a $\frac{1}{8}$ inch kerf. Now I had more fractions to keep track of if I wanted a board cut to the correct size. (MORE MATH!)

I also had to scale logs, which means figuring out how much of the log could be used. They were



One board foot is 144 cubic inches. Use the formula given in the article and work with a partner to come up with different dimensions of boards that all come out to one board foot.

sometimes rotted or not straight. I would figure out the volume of the rotted section and deduct that from the total board feet. (MATH!)

When I loaded the



A worker removes bark from a log at the lumberyard.

truck, I had to remember each truck’s weight limit. Different types of wood have different weights depending on whether they are hard or soft woods. The wood was green, which means freshly cut, so it contained more moisture and was heavier than dried wood. A truck could hold between 8-9,000 board feet. (MATH!)

When grading lumber, I had to consider the quality of each board. For example, I looked at the size of the knot in comparison to the width of the board. If the knot was a certain size, I had to deduct it from the total board footage. The goal was to calculate the total useable board footage. (MORE MATH!)



Boards with knots.

These are just a few of the ways I use math in my life, but there are even more!

Doug Cate is a student at Second Start in Concord, NH. He has been attending night school for two years while working full time during the day. He has recently passed his final test to complete the HiSET requirements—the MATH test!