

*Calculating*  
*board Feet*  
*linear feet*  
*square feet*

**TED 126**  
**Spring 2007**

Board Feet

- **"Board Feet"** is a measurement of lumber volume.
- A board foot is equal to 144 cubic inches of wood.
- Actually it's easy to calculate using the following formula:  
**Bd. Ft. = T (inches) x W (inches) x L (feet) / 12**

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Board Feet

- When you are figuring up board feet, keep in mind a waste factor.
- If you purchase good clear material add about 15% for waste,
- if you elect to use lower grade material you will have to allow for defects and more wasted material ---add about 30%.

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Board Feet

**Bd. Ft. = T (inches) x W (inches) x L (feet) / 12**

**Bd. Ft. = T (inches) x W (inches) x L (inches) / 144**

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Board Feet and Linear feet

- A **linear foot** is a measure of length 12 inches long and a
- **board foot** is a number calculated by determining the **volume of a board** that is 12 inches wide and 1 inch thick.
  - In other words, a 1" x 6" board that measures 24" long is exactly one board foot.  
 (width" x thickness" x length' / 12)

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Board Feet and Linear feet

- **To convert linear feet to board feet:**  
**Thickness" x Width" x Length' ÷ 12**
- **To convert board feet to linear feet:**  
**12 ÷ Thickness" x Width" x Board Foot**

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## Linear feet and Square Feet

- A **Linear Foot** is just a measurement of length and does not take into account its width or thickness.
- **Square Feet** measures area, simply width x length.

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## The math....

- It is not possible to **convert linear footage into square footage** because a linear foot is only one dimension and a square foot is two dimensions,
- and additionally, a "board foot" is an example of three dimensions.
- However, if you know the linear footage as well as the width, you can divide the width by 12 and multiply by the linear footage - that should give you the square footage of a particular bundle of flooring.
- **To convert square feet to linear feet:**  
**square feet / width of board in feet = linear feet**

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## Square Foot

- SQUARE FOOTAGE – A unit of measurement to determine that **total amount of flooring** required for a given area. It is **how much surface a milled wood product will cover**.
- In practice, calculate by multiplying the length times the width of the space.
  - For the purpose of determining the amount of square footage per width in a given flooring bundle,
  - calculate by dividing the width of the flooring by 12 and then multiplying by the total linear footage (length of layers x number of layers)."

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## Materials...

- **Plywood, hardboard, particle board** and other sheet material are sold by the **Square foot**.
- **Moldings, trim, dowel rods**, wood siding / paneling and similar materials are sold by the **Linear foot**.

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## Siding example...

- **Redwood Siding and paneling** is sold by the linear (or lineal) foot. **Your quantity requirements are calculated by multiplying the square foot area by a factor based on the siding width.**
- A) Calculate the square footage in walls: length x height = sq. ft.  
B) Calculate, and then subtract, the square footage of openings  
C) Add 10% to cover trim and waste  
D) Multiply the result by the factor for lineal feet
- **For example:** If you are paneling four walls 8 feet high by 40 feet long with 1x6" Tongue and Groove redwood siding and we allow 10% of the total square feet for openings, you would need approximately 3300-3400 linear feet:
- $4 * 8 * 40 = 1280 \text{ SQ FT} - 128 (10\% \text{ openings}) + 115 (10\% \text{ trim/waste}) = 1267 \text{ SQ FT} * 2.67 \text{ linear factor} = 3383 \text{ LFT}$

THE END

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