Name _____ Date _____ M16-2

Calculating Board Feet and Lineal Feet

The board foot is the basic unit of lumber measurement. One *board foot* is equal to a piece of lumber that measures 1" × 12" × 12". Lumber yards often sell lumber by the board foot.

Practice Exercises

Some lumber supply stores sell lumber by board feet. Others sell lumber by the lineal foot.

To calculate board feet:

Step 1 Multiply the number of pieces of lumber times the thickness in inches *(t)* times the width in inches *(w)* times the length in feet *(l)*.

Step 2 Divide this answer by 12.

$$\textbf{Bd. ft.} = \frac{\textbf{No. of pieces} \times t'' \times w'' \times l'}{12}$$

To calculate lineal feet:

Step 1 Multiply the number of pieces of lumber times the length of the piece *(l)*.

$$\textbf{Lineal ft.} = \textbf{No. of pieces} \times l'$$

Problem Exercises

Use the following lumber orders to calculate the number of board feet and lineal feet ordered. **Hint:** Remember that lumber is sold in even lengths.

1. How many board feet are there in 12 pieces of lumber each 2 × 4 × 16'? _____

How many lineal feet are there in 12 pieces of lumber each 2 × 4 × 16'? _____

2. How many board feet are there in 28 pieces of lumber each 2 × 10 × 11'? _____

How many lineal feet are there in 28 pieces of lumber each 2 × 10 × 11'? _____

3. How many board feet are there in 8 pieces of lumber each 1 × 8 × 22'? _____

How many lineal feet are there in 8 pieces of lumber each 1 × 8 × 22'? _____

4. How many board feet are there in 17 pieces of lumber each 2 × 6 × 15'? _____

How many lineal feet are there in 17 pieces of lumber each 2 × 6 × 15'? _____

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Additional Problem Exercises

Use the following table to convert board feet to lineal feet and lineal feet to board feet. Multiply the length in feet times the correct factor.

Lumber Conversions					
Size	**Lineal to Bd. Ft.**	**Bd. Ft. to Lineal**	**Size**	**Lineal to Bd. Ft.**	**Bd. Ft. to Lineal**
1 × 2	0.167	6	2 × 2	0.333	3
1 × 3	0.25	4	2 × 3	0.5	2
1 × 4	0.333	3	2 × 4	0.667	1.5
1 × 6	0.5	2	2 × 6	1	1
1 × 8	0.667	1.5	2 × 8	1.333	0.75
1 × 10	0.833	1.2	2 × 10	1.667	0.6
1 × 12	1	1	2 × 12	2	0.5

5. How many lineal feet of 1 × 6 stock do you have if you have 360 board feet? _____

6. How many board feet of 2 × 10 stock do you have if you have 18 pieces, each 14' long? _____

Practice Exercises

Not all cuts of lumber are rectangular. By using special formulas you can calculate the number of board feet in a piece of lumber shaped like a parallelogram, a triangle, or a trapezoid.

To calculate the number of board feet in a parallelogram: **Bd. Ft. = t'' × w'' × l' ÷ 12**

To calculate the number of board feet in a triangle: **Bd. Ft. = t'' × w'' × l' ÷ 24**

To calculate the number of board feet in a trapezoid: **Bd. Ft. = (a' + b') × t'' × w'' ÷ 24**
a and *b* represent the length in feet of the trapezoid's parallel sides.

Problem Exercises

Using the formulas above, calculate the number of board feet in the following problems.

7. Find the number of board feet in twenty 1"-thick triangular pieces of lumber that each have a width of 10" and a length of 14'. _____

8. Find the number of board feet in a 2"-thick piece of lumber that is shaped like a trapezoid. Its parallel sides measure 8' and 12' respectively, and it has a 14" width. _____