

It's in the Math

As the owner of a small construction company, you have taken a job to add a family room to a house. The family room will measure 18 feet long by 13 feet 6 inches wide and 8 feet high. Though you are adding to an existing home, you prefer to cover one existing exterior wall with dry wall.

Other features of the family room include:

Two 6'6" by 2'6" internal doors

One 6'6" by 3' external door

Three 5' feet by 36" windows

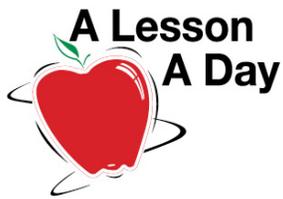
To determine the cost of materials for the family room, you must take into account all of the features of the room and calculate exactly how much dry wall will be needed to cover all four walls.

Part I – Square Feet

Carpenters often use square feet as their unit of measure when they calculate the quantity of materials to purchase.

A standard panel of dry wall measures 4' by 8'. To know how much wall space one panel will cover, find the area of one panel and express it in square feet. (Multiply the length of the panel in feet by the width in feet.) How many square feet are in one standard panel of dry wall?

$$\begin{array}{l} \underline{\hspace{2cm}} \text{ X } \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \\ \text{Length in feet} \qquad \qquad \text{Width in feet} \qquad \qquad \text{Area of one panel in square feet (Sq. Ft.)} \end{array}$$



Part II – Square Feet in Four Walls

To find the number of square feet contained in all four walls of the office, multiply the length and width of the four walls.

Hint: To calculate square feet, all of your measurements must be in feet. If a wall is 13' 6" wide, you must convert the inches into feet. See the example below for converting 6" to feet.

$$6" \div 12" = .5'$$

Inches in a foot Express as a decimal

The width of the room is now expressed as 13.5 feet.

A. Width The family room is 18' by 13' 6". In order to find the width of all sides of the room, add the width of the longer side to the width of the shorter side and multiply by two. (The finished room will have two long walls and two short walls.)

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} \times 2 = \underline{\hspace{2cm}}$$

Width of long side Width of short side Width of all walls

Length As all four walls are 8' from floor to ceiling, use 8' when length is required for a calculation.

B. Area To calculate the square feet of wall space to be covered (area), multiply the length of the walls in feet by the width of the walls in feet.

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Length of the walls (Ft.) Width of four walls (Ft.) Area in square feet for four walls

MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY