

2 Is the Plankhouse big enough?

People of the Confederated Tribes of Grand Ronde and other native tribes of the Pacific Northwest traditionally lived in longhouses or Plank houses. Traditionally, multiple family members of extended families lived in a plank house. Plank houses also held different areas for cooking, storytelling, and dancing. Plank houses were a place for gathering and celebration as well as a safe place to reside in harsher winter months.

An Elder wants a Plank house built to fit his family. He has a wife, and each of their 6 children need 90 square feet for their family. He wants to have total of 500 square feet for gathering, storytelling, and dancing, along with a 150 square feet for cooking. How big does the long house need to be?

To answer the question.

Note that there are 6 children, so you need 7 (6 children and a space for him and his wife) times the square foot per family members. which could be represented by $7x$, where x represents the square foot per family. Then you add the desired square feet the gathering, and the cooking space together. If you let y represent the total square foot you get the equation.

$$y = 7x + 500 + 150$$

Since you know that each family member would get 90 square feet, you would substitute $x = 90$.

Which would give you

$$y = 6(90) + 650.$$

$$y = 540 + 650$$

$$y = 1190$$

So the Elder would need to build a long house that was 1190 square feet.

Exercise Problems

- 1 A Grand Ronde family wants to build a Plank house that will house 4 families, 100 square foot story telling place, 300 square foot dancing place, and 200 square foot for cooking. If each family would have 100 square feet to sleep in, how big should the Plank house be in terms of square feet?
- 2 A Grand Ronde family wants to build a Plank house that will house 6 families, 50 square foot story telling place, 350 square foot dancing place, and 175 square foot for cooking. If each family would have 80 square feet to sleep in, how big should the Plank house be in terms of square feet?
- 3 A Pacific Northwest Tribal family wants to build a Plank house that will house 3 families, 50 square foot story telling place, 200 square foot dancing place, and 100 square foot for cooking. If each family would have 75 square feet to sleep in, how big should the Plank house be in terms of square feet?