



Name _____

Date _____

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Multiplying Fractions by a Whole Number

Word Problems

(4.NF.4)

Directions: Solve the following word problem using numbers, pictures (model drawings), and words. 😊

Jessica and her grandmother have decided to grow their hair to donate to cancer patient wigs. They need to know how much their hair will grow in one year. Jessica's hair grows $\frac{1}{2}$ in per month. Grandmother's hair grows $\frac{1}{4}$ in per month. How much will Jessica's hair grow in one year? How much will Grandmother's hair grow in one year? If they each want to donate 12 inches, how long will it take each of them?



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Answer: _____

Answer:

The first thing you need to do is realize that there are 12 months in a year. Jessica's hair grows at a rate of $\frac{1}{2}$ in a month. You will need to multiply $\frac{1}{2}$ by 12. $12/1 \times \frac{1}{2} = \frac{12}{2} = 6$
Jessica's hair will grow 6 inches in a year. For Grandmother you will need to multiply $\frac{1}{4}$ by 12. $12/1 \times \frac{1}{4} = \frac{12}{4} = 3$ Grandmother's hair will grow 3 inches in a year.

It takes Jessica's hair one year to grow 6 inches. She wants to donate 12 inches. I know that 12 is double 6. So, it would take 2 years for Jessica to grow 12 inches of hair. It takes Grandmother's hair one year to grow 3 inches. I know that there are four groups of three in 12, $4 \times 3 = 12$. So, it would take Grandmother 4 years to grow 12 inches to donate.