

1) You have 12 steps that need carpet and each step need $1\frac{1}{4}$ yards of carpet. How much carpet do you need?

$$12 \times 1\frac{1}{4} = 12 \times \frac{5}{4} = \frac{12}{1} \times \frac{5}{4} = \frac{15}{1} \quad \boxed{15 \text{ yards}}$$

2) Six employees worked an $8\frac{1}{2}$ hour day. How many hours were worked total?

$$8\frac{1}{2} \times 6 = \frac{17}{2} \times 6 = \frac{17}{2} \times \frac{6}{1} = \frac{51}{1} \quad \boxed{51 \text{ hours}}$$

3) I have four pieces of wood that measure $11\frac{1}{8}$ inches long. How long is this wood together?

$$4 \times 11\frac{1}{8} = 4 \times \frac{89}{8} = \frac{4}{1} \times \frac{89}{8} = \frac{89}{2} = \boxed{44\frac{1}{2} \text{ " long}}$$

4) Find the height of a riser when the total rise of the stairs is $98\frac{1}{2}$ " and there are 12 stairs.

$$98\frac{1}{2} \div 12 = \frac{197}{2} \div 12 = \frac{197}{2} \times \frac{1}{12} = \frac{197}{24} = \boxed{8\frac{5}{24} \text{ "}}$$

5) Find the width of each tread for a set of stairs when the total run is $140\frac{3}{4}$ " and there are 13 treads

$$140\frac{3}{4} \div 13 = \frac{563}{4} \div 13 = \frac{563}{4} \times \frac{1}{13} = \frac{563}{52} = \boxed{10\frac{43}{52} \text{ "}}$$