

Multiplying Mixed Numbers Whose Fractions Are The Same:

A. From algebra we learn:

$$a\frac{b}{c} \times d\frac{b}{c} = a \cdot d + \frac{b}{c}(a + d) + \left(\frac{b}{c}\right)^2$$

B. Use the following rules:

1. Multiply the two whole numbers together.
2. Add the two whole numbers together and multiply by the fraction.
3. Add step 1 and step 2 for the whole number to the answer.
4. Square the fraction. This is the fraction for the answer.

Ex [1] $5\frac{1}{4} \times 3\frac{1}{4} =$ _____ (mixed number).

- a) $5 \times 3 = 15$.
- b) $(5 + 3) \times \frac{1}{4} = 8 \times \frac{1}{4} = 2$.
- c) $15 + 2 = 17$. Write 17.
- d) $(\frac{1}{4})^2 = \frac{1}{16}$. Write $\frac{1}{16}$.
- e) The answer is $17\frac{1}{16}$.

Ex [2] $12\frac{3}{8} \times 4\frac{3}{8} =$ _____ (mixed number).

- a) $12 \times 4 = 48$.
- b) $(12 + 4) \times \frac{3}{8} = 16 \times \frac{3}{8} = 6$.
- c) $48 + 6 = 54$. Write 54.
- d) $(\frac{3}{8})^2 = \frac{9}{64}$. Write $\frac{9}{64}$.
- e) The answer is $54\frac{9}{64}$.