

# Multiply Mixed Numbers

To find the product of two mixed numbers we follow the steps listed below:

**STEP 1:** Write the mixed number as a fraction

**STEP 2:** Find the product and use the GCF to simplify.

**STEP 3:** Write the fraction as a mixed number.

Samar bought  $2\frac{1}{4}$  dozen eggs. She used  $\frac{2}{3}$  of them. How many dozens did she use?

**STEP 1:** Write the mixed number as a fraction

$$2\frac{1}{4} = \frac{(2 \times 4) + 1}{4} = \frac{9}{4}$$

**STEP 2:** Find the product and use the GCF to simplify.

$$\frac{9}{4} \times \frac{2}{3} = \frac{\cancel{9}^3 \times \cancel{2}}{\cancel{4}_2 \times \cancel{3}} = \frac{3}{2}$$

$$GCF(2,4) = 2 \quad \text{and} \quad GCF(3,9) = 3$$

**STEP 3:** Write the fraction as a mixed number.

$$\frac{3}{2} = 1\frac{1}{2}$$

So, Boushra used  $1\frac{1}{2}$  dozen.

**Examples:**

**A- Find the product. Write it in simplest form.**

1)  $3\frac{3}{5} \times 4\frac{2}{7}$

$3\frac{3}{5} \times 4\frac{2}{7}$  *Convert the mixed numbers to fractions*

$= \left( \frac{(3 \times 5) + 3}{5} \right) \times \left( \frac{(4 \times 7) + 2}{7} \right)$  *Simplify*

$= \frac{18}{5} \times \frac{30}{7}$  *Multiply*  $\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$

$= \frac{18 \times \cancel{30}^6}{\cancel{5} \times 7}$  *Simplify*

$= \frac{108}{7}$   $108 > 7$  *Convert the fraction to a mixed number*

$= 15\frac{3}{7}$

2)  $5\frac{1}{2} \times 7\frac{1}{3}$

$5\frac{1}{2} \times 7\frac{1}{3}$

$= \frac{5 \times 2 + 1}{2} \times \frac{7 \times 3 + 1}{3}$

$= \frac{11}{2} \times \frac{22}{3}$

$= \frac{121}{3}$

$= 40\frac{1}{3}$

**My Real Life**

Ahmad pours  $2\frac{3}{4}$  liter of milk in 3 bottles equally. How much did Ahmad pour?

Multiply the amount of milk by the number of bottles.

$3 \times 2\frac{3}{4} = 6\frac{3}{4} = 9 = 4\frac{1}{2}$  liters of milk

