Lesson 4.6 Multiply Fractions

Objective: To multiply fractions and mixed numbers.

Ex.1 Multiply. Write in Simplest form.

$$\left(\frac{2}{7}\right) \times \left(-\frac{3}{8}\right) = \frac{2 \times (-3)}{7 \times 8} = \frac{-6}{56} \div \frac{2}{2} = \boxed{\frac{-3}{28}}$$

Ex.2 Find $\frac{1}{2} \times 4\frac{2}{5}$. Write in simplest form.

Method 1: Rename the mixed # to an improper fraction.

$$4\frac{2}{5} = \frac{22}{5} \times \frac{1}{2} = \frac{11}{5} \times \frac{1}{1} = \frac{11}{5} = 5\overline{)11} = \boxed{2\frac{1}{5}}$$

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Method 2: Mental Math.
The mixed number $4\frac{2}{5}$ is equal to $4 + \frac{2}{5}$. Use the distributive property to multiply, then add mentally.

$$\frac{1}{2}\left(4 + \frac{2}{5}\right) = \frac{1}{2} \cdot \frac{4}{1} + \frac{1}{2} \cdot \frac{2}{5}$$

$$\frac{4}{2} + \frac{2}{10} = 2 + \frac{2}{10} = 2\frac{2}{10} = \boxed{2\frac{1}{5}}$$