

Name: _____

Period: _____

Date: _____

Math Unit 2: Fractions and Decimals**Lesson 2.1b- Multiplying Mixed Numbers****SWBAT:****Paraphrase:****Essential Question:** How can you multiply mixed numbers?**Key Idea:** Multiplying Mixed Numbers

Write each mixed number as an improper fraction. Then multiply as you would with fractions.

Example 1

Find $\frac{1}{2} \times 2\frac{3}{4}$.

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

$$\frac{1}{2} \times 2\frac{3}{4} = \frac{1}{2} \times \frac{11}{4}$$

Write $2\frac{3}{4}$ as the improper fraction $\frac{11}{4}$.

$$= \frac{1 \times 11}{2 \times 4}$$

Multiply the numerators and the denominators.

$$= \frac{11}{8}, \text{ or } 1\frac{3}{8}$$

Simplify.

••• The product is $1\frac{3}{8}$.

Reasonable? $1\frac{3}{8} \approx 1\frac{1}{2}$ ✓

Example 2

Find $1\frac{4}{5} \times 3\frac{2}{3}$.

Estimate $2 \times 4 = 8$

$$1\frac{4}{5} \times 3\frac{2}{3} = \frac{9}{5} \times \frac{11}{3}$$

Write $1\frac{4}{5}$ and $3\frac{2}{3}$ as improper fractions.

$$= \frac{\overset{3}{\cancel{9}} \times 11}{5 \times \underset{1}{\cancel{3}}}$$

Multiply fractions. Divide out the common factor 3.

$$= \frac{33}{5}, \text{ or } 6\frac{3}{5}$$

Simplify.

••• The product is $6\frac{3}{5}$.

Reasonable? $6\frac{3}{5} \approx 8$ ✓

Your Turn

Multiply. Write the answer in simplest form.

6. $\frac{1}{3} \times 1\frac{1}{6}$

7. $3\frac{1}{2} \times \frac{4}{9}$

8. $1\frac{7}{8} \times 2\frac{2}{5}$

9. $5\frac{5}{7} \times 2\frac{1}{10}$

Example 3



A city is resurfacing a basketball court. Find the area of the court.

Estimate $21 \times 14 = 294$

$$A = \ell w$$

Write the formula for the area of a rectangle.

$$= 21\frac{1}{3} \times 13\frac{1}{2}$$

Substitute $21\frac{1}{3}$ for ℓ and $13\frac{1}{2}$ for w .

$$= \frac{64}{3} \times \frac{27}{2}$$

Write $21\frac{1}{3}$ and $13\frac{1}{2}$ as improper fractions.

$$= \frac{\overset{32}{\cancel{64}} \times \overset{9}{\cancel{27}}}{\underset{1}{\cancel{3}} \times \underset{1}{\cancel{2}}}$$

Multiply fractions. Divide out common factors.

$$= 288$$

Simplify.

••• So, the area of the court is 288 square meters.

Reasonable? $288 \approx 294$ ✓

Your Turn

Find the area of a rectangular air hockey table that is $8\frac{1}{4}$ feet by $4\frac{3}{8}$ feet.

Notes /
Questions