Name: _____ Date: _____

6.4 Multiplying Improper Fractions and Mixed Numbers

***MathLinks 8,* pages 216–221**

Key Ideas Review

1. Decide whether each of the following statements is true or false. Circle the word *True* or *False*. If the statement is false, rewrite it to make it true.

a) **True/False** You can model the multiplication of two mixed numbers or improper fractions using partial areas of a rectangle.

b) **True/False** You can calculate the product of two mixed numbers or improper fractions by multiplying the whole numbers closest to them.

c) **True/False** Two mixed numbers can be multiplied by expressing them as improper fractions and then multiplying the numerators by the denominators.

Practise and Apply

2. Express each improper fraction as a mixed number.

a) $\frac{9}{5}$ **b)** $\frac{13}{6}$

3. Express each mixed number as an improper fraction.

a) $2\frac{1}{2}$ **b)** $4\frac{2}{3}$

4. Use a model to determine each product.

a) $1\frac{1}{2} \times \frac{1}{3}$ **b)** $1\frac{1}{3} \times 2\frac{1}{4}$

5. Estimate and calculate. Show your thinking.

a) $\frac{2}{3} \times \frac{6}{5}$

Estimate: _____

Calculate:

b) $4 \times 2\frac{1}{3}$

Estimate: _____

Calculate:

c) $1\frac{3}{4} \times 3\frac{1}{3}$

Estimate: _____

Calculate:

Name: _____ **Date:** _____

6. One week, Kristi worked 3 days at a department store for $3\frac{1}{2}$ h each day. She was paid \$9/h.

a) How many hours did Kristi work that week? Show your thinking.

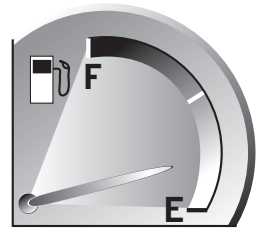
b) How much did Kristi earn that week?

7. Jupiter completes about $2\frac{2}{5}$ rotations every 24 hours (an Earth day). How many rotations does Jupiter complete in one Earth week? Show your thinking.

8. A sailboat is sailing at $8\frac{1}{2}$ km/h. If the weather conditions and the current do not change, how far will the sailboat travel in $1\frac{1}{3}$ h? Show your thinking.

9. The distance to Grandma's house is $\frac{4}{5}$ of the distance to Uncle Glen's house. If Uncle Glen's house is $3\frac{1}{2}$ hours away, how long will it take to get to Grandma's house if you travel at the same speed?

10. It takes $\frac{3}{5}$ of a tank of gas to get to work and back each day. How much gas is used over 5 work days? Show your thinking.



11. Owen is $2\frac{1}{4}$ times as old as Robin. When Robin celebrates his 8th birthday, how old will Owen be?

12. The karate club is arranging a grading for its members. It takes $3\frac{1}{4}$ hours to test a group of 4 candidates. How long will the club need the gym in order to process 3 groups of 4 candidates each?