Multiplying Mixed Numbers

You can find the product of two mixed numbers.

Millwood City is constructing a new highway through town. The construction crew can complete $5\frac{3}{5}$ miles of road each month. How many miles will they complete in $6\frac{1}{2}$ months?

Step 1. Round the mixed numbers to whole numbers so you can make an estimate.

$$5\frac{3}{5} \times 6\frac{1}{2}$$

$$6 \times 7 = 42$$

So, they can complete about 42 miles.

Step 2. Write the mixed numbers as improper fractions.

$$5\frac{3}{5} \times 6\frac{1}{2} = \frac{28}{5} \times \frac{13}{2}$$

Step 3. Multiply the numerators and the denominators. Simplify the product if possible. Remember to look for common factors.

$$\frac{\overset{14}{\cancel{28}}}{5} \times \frac{13}{\underset{1}{\cancel{2}}} = \frac{182}{5} = 36\frac{2}{5}$$

Step 4. Compare your product to your estimate to check for reasonableness.

$36\frac{2}{5}$ is close to 42, so this answer is reasonable.

The construction crew will complete $36\frac{2}{5}$ miles of highway in $6\frac{1}{2}$ months.

For **1** through **6**, estimate a product. Then solve for each actual product. Simplify if possible.

1. $1\frac{3}{4} \times 2\frac{1}{2} =$ _____

2. $1\frac{1}{5} \times 1\frac{2}{3} =$ _____

3. $2 \times 2\frac{1}{4} =$ _____

4. $1\frac{2}{5} \times 2\frac{1}{4} =$ _____

5. $2\frac{1}{2} \times 10 =$ _____

6. $1\frac{2}{3} \times \frac{1}{5} =$ _____

7. Using the example above, the new highway will be a total of 54 miles long. Will the highway be finished in 8 months?

_____

8. Sayed gave an answer of $6\frac{6}{7}$ for the problem $4\frac{2}{7} \times 1\frac{3}{5}$. Using estimates, is this a reasonable answer?

_____

Name _____

Multiplying Mixed Numbers

Estimate the product. Then complete the multiplication.

1. $5\frac{4}{5} \times 7 = \dfrac{\boxed{}}{5} \times \dfrac{7}{1} = \boxed{}$

2. $3\frac{2}{3} \times 5\frac{1}{7} = \dfrac{\boxed{}}{3} \times \dfrac{\boxed{}}{7} = \boxed{}$

Estimate. Then find each product. Simplify.

3. $4\frac{3}{5} \times \frac{2}{3}$ _____

4. $6 \times 2\frac{2}{7}$ _____

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

6. $3\frac{3}{4} \times 2\frac{4}{5}$ _____

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

8. $6\frac{1}{3} \times 1\frac{5}{6}$ _____

9. $1\frac{4}{5} \times 1\frac{1}{3} \times 1\frac{3}{4}$ _____

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

11. Write a mixed number for p so that $3\frac{1}{4} \times p$ is more than $3\frac{1}{4}$.

_____

12. A model house is built on a base that measures $9\frac{1}{4}$ in. wide and $8\frac{4}{5}$ in. long. What is the total area of the model house's base?

_____

13. Which is $1\frac{3}{4}$ of $150\frac{1}{2}$?

A 263 **B** $263\frac{1}{8}$ **C** $263\frac{3}{8}$ **D** $264\frac{3}{8}$

14. Megan's dog Sparky eats $4\frac{1}{4}$ cups of food each day. Explain how Megan can determine how much food to give Sparky if she needs to feed him only $\frac{2}{3}$ as much. Solve the problem.

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