

## Pre-Algebra Dividing Mixed Numbers

### Improper Fraction Method

To divide mixed numbers, it may be best to use the **Improper Fraction Method**.

**Example:** Divide  $(12\frac{4}{7}) \div (3\frac{1}{14})$

Step 1: Write the starting problem.

Step 2: Convert each mixed number to an improper fraction.

Step 3: Convert the division to a multiplication. Remember to “flip that guy and multiply.”

Step 4: Simplify the multiplication if possible.

Step 5: Multiply both values in the numerator and in the denominator.

Step 6: Divide the numerator by the denominator to obtain the solution to the problem.

Step 7: Simplify your answer further, if possible.

Step 8: If you have a calculator, check your work by converting each fraction to a decimal and seeing if the product generates the solution you calculated.

*The result does not need to be exact, but should be very close. The result in the example is exact to 2 decimals.*

Note: If you do not have a calculator, carefully check each step to make sure both your logic and your arithmetic are correct.

$$(12\frac{4}{7}) \div (3\frac{1}{14})$$

$$= \frac{88}{7} \div \frac{43}{14}$$

$$= \frac{88}{7} \cdot \frac{14}{43}$$

$$= \frac{88}{1} \cdot \frac{2}{43}$$

$$= \frac{176}{43}$$

$$= 4\frac{4}{43}$$

No further simplification is possible in the example.

**Check:**

$$(12\frac{4}{7}) \div (3\frac{1}{14}) ? 4\frac{4}{43}$$

$$12.57 \div 3.07 ? 4.09$$

$$4.09 = 4.09$$

