Fractions Skills

Simplification

Example:

Evaluate the expression

$$\frac{24}{30} \quad \begin{matrix} \div 6 \\ \div 6 \end{matrix} \quad = \quad \boxed{\frac{4}{5}}$$

Questions to ask:
1. What am I being asked to do?
2. What are the factors of both the numerator (top) and the denominator (bottom)?

$$\frac{24 \div 3 = 8 \div 2 \ = 4}{30 \div 3 = 10 \div 2 = 5}$$

Solution:

1. Evaluate – determine a value
2. Factors (things that go in to a number) **6, 3 and 2**

3. Divide numerator and denominator by the highest factor you found.

Q: What if I don't use the highest factor the first time?
A: Just repeat steps two and three

Simplification Practice: try on board

$$\frac{40}{8}$$

$$\frac{14}{35}$$

Converting Mixed Number to Improper Fraction

Example:

$$5\frac{2}{3}$$

$$\frac{5}{1}\left(\frac{3}{3}\right) =$$

$$\frac{15}{3} + \frac{2}{3} = \frac{17}{3}$$

- Put the whole number part over one.
- Multiply both top (numerator) and bottom (denominator) by the denominator of the original fraction part.
- Add the converted whole number to the original fraction portion.

Converting a mixed number to an improper fraction practice

$$6\frac{3}{2}$$

Multiplying Fractions

$$\frac{22}{5} * \frac{2}{3}$$

Neither fraction simplifies.

$$\frac{22}{5} * \frac{2}{3} = \frac{44}{15}$$

The answer does not simplify.

Steps

- Simplify either fraction if possible.
- Multiply straight across.
- Simplify answer if possible.

Multiplying Fractions Practice

One more example: work on the board.

$$\frac{12}{36} * \frac{6}{4}$$

Dividing Fractions: Works Every Time

Turn into a multiplication problem by

Inverting (flipping) the second fraction. (The one that appears right after the division sign.)

Example 1:

$$\frac{8}{27} \div \frac{5}{3} = \frac{8}{27} * \frac{3}{5}$$

Multiplication Steps Review:

1. Simplify each fraction (if possible)
2. Multiply straight across
3. Simplify the answer

Dividing Fractions Practice

$4\frac{2}{3} \div 3\frac{4}{5}$

We need to convert into improper fractions.

$8 \div \frac{7}{2}$