

Elementary Review #2 – Fractions

It's everybody's favorite subject... fractions!

Example 1: Reduce the following fractions to *lowest terms*.

$$(a) \frac{3}{6} = \frac{1}{2} \quad (b) \frac{10}{15} = \frac{2}{3} \quad (c) \frac{18}{45} = \frac{2}{5} \quad (d) \frac{77}{1001} = \frac{1}{13} \quad (e) \frac{12}{29} = \frac{12}{29} (!)$$

Example 2: Convert from a mixed number to an improper fraction:

$$(a) 3\frac{1}{3} = \frac{10}{3} \quad (b) 16\frac{4}{7} = \frac{116}{7}$$

Example 3: Add or Subtract fractions!

Steps:

- (1) Find common denominator & convert
- (2) Add numerators
- (3) Reduce to lowest terms

$$(a) \frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6} \quad (b) \frac{9}{10} + \frac{4}{15} = \frac{27}{30} + \frac{8}{30} = \frac{35}{30} = \frac{7}{6} = 1\frac{1}{6}$$

$$(c) \frac{7}{11} - 1 = \frac{7}{11} - \frac{11}{11} = \frac{-4}{11}$$

Example 4: Multiply Fractions!

Multiply the numerators together, multiply the denominators together, and simplify.

$$(a) \frac{3}{5} \times \frac{5}{6} = \frac{15}{30} = \frac{1}{2} \quad (b) \frac{8}{15} \times \frac{5}{16} = \frac{40}{240} = \frac{1}{6}$$

Example 5: Divide fractions!

Multiply *by the reciprocal* of the second fraction.

$$(a) \frac{4}{5} \div \frac{1}{10} = \frac{4}{5} \times \frac{10}{1} = \frac{40}{5} = 8$$

Example 6: Mr. Kempe brings some leftovers - $\frac{5}{6}$ of a cake - to school for a snack. He proceeds to eat $\frac{1}{4}$ of the remaining cake at lunch. How much of the original cake is left?

He eats $\frac{1}{4}$, so $\frac{3}{4}$ are left.

$$\frac{5}{6} \times \frac{3}{4} = \frac{15}{24} = \frac{5}{8}$$

There is $\frac{5}{8}$ of a cake left.

Practice: