September 6, 2016

* Quiz #3 – Tomorrow
  - Tools
  - CORE 1.1 & 1.2
  - Quiz #2 → CORE 1.1

Sep 6-9:51 AM

Fractions are our Friends!

① Fundamental Principal of Fractions

$\frac{a}{b} \cdot \frac{c}{c} = \frac{ac}{bc} = \frac{a}{b} \cdot 1 = \frac{a}{b}$ ("one")

$a, b, \& c \in \mathbb{R} \to (\mathbb{Z})$

(a) $\frac{5}{7} \cdot \frac{5}{5} = \frac{25}{35}$ ("one")

(b) $\frac{28}{14} = 2 \cdot \frac{2 \cdot 7}{2 \cdot 7} = 2$ ("ones")

Sep 6-10:07 AM

Operations

② multiplication

$\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$

$\frac{5}{7} \cdot \frac{3}{11} = \frac{15}{77}$

$\frac{3}{8} \cdot \frac{4}{13} = \frac{12}{104}$ (÷4, ÷2)

$\frac{3}{2} \cdot \frac{1}{13} = \frac{3}{26}$

Sep 6-10:21 AM

③ Division

$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$ (Keep, change to mult., flip)

$= \frac{ad}{bc}$

alternate Form → Complex Fraction

$\frac{\frac{a}{b}}{\frac{c}{d}} = \frac{a}{b} \cdot \frac{d}{c} = \frac{ad}{bc}$ (N, C, F)

(a) $\frac{\frac{3}{4}}{\frac{7}{8}} = \frac{3}{4} \cdot \frac{8}{7} = \frac{6}{7}$

(b) $\frac{\frac{2}{x^2}}{\frac{3}{x}} = \frac{2}{x^2} \cdot \frac{x}{3} = \frac{2}{3x}$

Sep 6-10:26 AM

④ Addition or Subtraction Like denominators

$\frac{a}{b} \pm \frac{c}{b} = \frac{a \pm c}{b}$

(a) $-\frac{23}{8} - \frac{3}{8} = \frac{(-23)+(-3)}{8}$

$= -\frac{26}{8}$

$= -\frac{13}{4}$

Sep 6-10:33 AM

⑤ Addition or Subtraction w/ Unlike denominators

$\frac{a}{b} \pm \frac{c}{d} = \frac{ad \pm bc}{bd}$

(a) $\frac{a}{b} \cdot \frac{d}{d} = \frac{ad}{bd}$ ("one")

(b) $\frac{c}{d} \cdot \frac{b}{b} = \frac{bc}{bd}$

$\frac{1}{2} + \frac{1}{3} = \frac{3+2}{6} = \frac{5}{6}$

$\frac{1}{2}$ = Y₂

$\frac{2}{3}$ = Y₆ Y₆ Y₆ Y₆

$\frac{1}{3}$ = Y₆ Y₆

Sep 6-10:35 AM