

August 18, 2015

* Student Score Calculator #1
Due Friday

* Quiz #1 - Friday

Aug 18-9:53 AM

IP I

$$\frac{a}{b} \cdot \frac{c}{c} = \frac{a \cdot c}{b \cdot c} = \frac{a}{b} \cdot 1 = \frac{a}{b}$$

$b \neq 0 \rightarrow$ Undefined

$\frac{3}{4}$ of some whole = $\frac{3}{4}$

$$\frac{0}{5} = \frac{\quad}{\quad}$$

$$\frac{5}{8} \cdot \frac{2}{2} = \frac{10}{16}$$

$$\frac{24}{18} = \frac{2 \cdot 2 \cdot 2 \cdot 3}{2 \cdot 3 \cdot 3} = \frac{4}{3}$$

$\frac{4}{3} = \frac{4}{3} \cdot \frac{1}{1}$ Common
↓
Relatively Prime
↓
Reduced

Aug 18-10:07 AM

Operations on Fractions

① Multiplication

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

$b \neq d \neq 0$

$$\frac{5}{7} \cdot \frac{2}{3} = \frac{10}{21}$$

$$\frac{2}{8} \cdot \frac{2}{9} = \frac{2 \cdot 2}{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3} = \frac{1}{4 \cdot 3} = \frac{1}{12}$$

$\frac{1}{4} \cdot \frac{1}{3} = \frac{1}{12}$

or $\frac{3}{8} \cdot \frac{2}{9} = \frac{6}{72} = \frac{1}{12}$

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② Division

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c} = \frac{ad}{bc}$$

Keep Change to Multiplication Flip

or

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

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③ Addition with Like Denominators

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

$$\frac{5}{9} + \frac{1}{9} = \frac{5+1}{9} = \frac{6}{9} = \frac{2}{3}$$

$$\frac{9}{x^2} - \frac{2}{x^2} = \frac{9-2}{x^2}$$

Same = $\frac{7}{x^2}$

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④ Addition w/ Unlike Denominators

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

(a) $\frac{a}{b} \cdot \frac{d}{d} = \frac{a \cdot d}{b \cdot d}$

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

} like Denominators

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LCD = 7 \cdot 12 = 84

$$\frac{5}{7} - \frac{11}{12}$$

$$\left. \begin{aligned} \frac{5}{7} \cdot \frac{12}{12} &= \frac{60}{84} \\ \frac{11}{12} \cdot \frac{7}{7} &= \frac{77}{84} \end{aligned} \right\} \frac{60 - 77}{84}$$

$$= \frac{-17}{84}$$

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$$\frac{\frac{1}{1} + \frac{3}{7}}{\frac{2}{1} + \frac{4}{7}} = \frac{\frac{7+3}{7}}{\frac{14+4}{7}}$$

$$= \frac{\frac{10}{7}}{\frac{18}{7}}$$

K
LCD

$$= \frac{10}{18} \cdot \frac{7}{7}$$

$$= \frac{10}{18}$$

$$= \frac{5}{9}$$

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$$\frac{6x^6}{x^2} = \frac{6 \cdot \cancel{x \cdot x} \cdot x \cdot x \cdot x \cdot x}{\cancel{x \cdot x}}$$

$$= 6x^4$$

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