March 24th

Due Today: HW 10.2
Due Tomorrow: HW 10.3

Unit 10: Algebraic Fractions

Lesson 10.3: Multiplying and Dividing Algebraic Fractions

Answers to 10.2 Practice

1) $\frac{x+2}{2(x^2+3)}$

2) $\frac{5(-x+1)}{6x(5x+1)}$

3) $\frac{3-2x^2}{3x}$

4) $\frac{4x^3-5}{3x^2}$

5) $\frac{4(x+8)}{5(x+3)}$

6) $\frac{16x+5}{2(5x+2)}$

7) $\frac{7x+15}{(x+5)(x+1)}$

8) $\frac{-3x^2+2x}{3x+2}$

9) $\frac{3x^2+2x-43}{5(x-3)(x+2)}$

10) $\frac{-10x^2-7x}{(x+1)(5x+4)}$

HOMEWORK REVIEW

(5) $\frac{4}{x+3} + \frac{4}{x+3}$ $\frac{5}{5}$

$\frac{4x+12}{5(x+3)} + \frac{20}{5(x+3)}$

$\frac{4x+32}{5(x+3)}$ ← get $4(x+8)$

$$\frac{4(x+8)}{5(x+3)}$$

(6) $\frac{4x}{2x} - \frac{4x+3}{10x+4}$

$\downarrow$

$\frac{10x+4}{10x+4}\frac{2}{1} - \frac{4x+3}{10x+4}$

$\frac{20x+8}{10x+4} + \frac{-4x-3}{10x+4}$

$\frac{16x+5}{10x+4} \rightarrow \boxed{\frac{16x+5}{2(5x+2)}}$

(10) $\frac{\frac{x+1}{x+1}}{5x+4} \quad \frac{5x}{} \quad - \quad \frac{3x}{x+1} \quad \frac{5x+4}{5x+4}$

$$\frac{(5x^2+5x) - (-15x^2+12x)}{(x+1)(5x+4)}$$

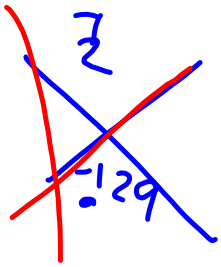
$$\frac{-10x^2-7x}{(x+1)(5x+4)} \rightarrow \boxed{\frac{-x(10x-7)}{(x+1)(5x+4)}}$$

(9) $\frac{3x}{5x} + \frac{x+5}{x^2-x-6}$ → $(x-3)(x+2)$

$\frac{\frac{x^2-x-6}{x^2-x-6}\cdot\frac{3}{5} + \frac{x+5}{x^2-x-6}\cdot\frac{5}{5}}{}$

$\frac{3x^2-3x-18+5x+25}{5(x^2-x-6)}$

$\boxed{\frac{3x^2+2x-43}{5(x^2-x-6)}}$ ← AGC



multiplying/dividing Fractions

$\frac{3}{2} * \frac{5}{3} = \frac{15}{6}$

$\frac{5}{2}$

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

$\frac{3}{2} \cdot \frac{3}{5} = \frac{9}{10}$

$\frac{2}{7} \div \frac{2}{3}$

$\frac{2}{7} \cdot \frac{3}{2} = \frac{3}{7}$

$$\frac{(x+1)\,(2x)}{(2x)\,(x-3)} \stackrel{?}{=} \frac{(x+1)}{(2x)} * \frac{(2x)}{(x-3)}$$

$$\frac{(x+1)\,(2x)}{(2x)\,(x-3)} = \frac{(x+1)}{(2x)} * \frac{(2x)}{(x-3)}$$

Make your way to the answer!

PROBLEM	FACTOR THE PIECES	FACTORED PROBLEM + CANCEL	ANSWER
a c b d $\frac{k+10}{k+2} \cdot \frac{k^2-36}{k^2+16k+60}$	C: $(k+6)(k-6)$ D: $(k+10)(k+6)$	$\frac{k+10}{k+2} \cdot \frac{(k+6)(k-6)}{(k+10)(k+6)}$	$\frac{k-6}{k+2}$
a c b d $\frac{n+7}{n+10} \div \frac{n-1}{n^2+9n-10}$	D: $(n+10)(n-1)$	$\frac{n+7}{n+10} \cdot \frac{(n+10)(n-1)}{n-1}$	$n+7$

$$\frac{5m-50}{m^2+3m-4} \cdot \frac{m^2+18m+9}{m-10}$$

A: $5(m-10)$

B: $(m-1)(m+4)$

C: $(m+9)(m-1)$

D

$$\frac{5(m-10)}{(m+4)(m-1)} \cdot \frac{(m+9)(m-1)}{m-10}$$

$$\boxed{\frac{5(m+9)}{m+4}} \quad \surd$$

$$\frac{3m^2+27m}{m^2+5m-24} \div \frac{m+9}{8m^3-24m^2}$$

$$\frac{24m^3}{m+8}$$

$$\frac{8m \cdot 3m^2}{m+8}$$

Challenge:

$$\frac{a\ n+1}{b\ 7n+42} \cdot \frac{c\ n^2+15n+54}{a\ n^2+8n+7} \div \frac{e\ -2n-18}{f\ 14n^4-7n^3}$$

A: $n+1$
B: $7(n+6)$
C: $(n+9)(n+6)$
D: $(n+7)(n+1)$
E: $-2(n+9)$
F: $7n^3(2n-1)$

$$\frac{(n+1)}{7(n+6)} \cdot \frac{(n+9)(n+6)}{(n+7)(n+1)} \cdot \frac{7n^3(2n-1)}{-2(n+9)}$$

$$\frac{n^3(2n-1)}{-2(n+7)}$$

Unit 10: Algebraic Fractions

Lesson #	Name	Recap	HW
10.1	What are Algebraic Fractions?	1. evaluate 2. Find ex vals 3. Simplify	HW 10.1
10.2	Adding + Subtracting	4. Add + Sub	finish Practice + Corrections
10.3	Multiplying and Dividing	5. Mult + Divid!	HW. 10.3 Test: 3/31