

OCTOBER 5, 2012 6.1
homework Cont.

(#4) $\frac{a^3 + a^2b + a + b}{5a^3 + 5a} \cdot \frac{6a^2}{2a^2 - 2b^2}$

*Scratch paper

$$\frac{a^3 + a^2b + a + b}{5a(a^2 + 1)} \cdot \frac{6a^2}{2(a^2 - b^2)}$$

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

$$\frac{(a+b)(a^2+1)}{5a(a^2+1)} \cdot \frac{6a^2}{2(a-b)(a+b)}$$

$$(a+b)(a^2+1)$$

~~6a~~

$$\frac{3a}{5(a-b)}$$

OCTOBER 5, 2012 Section 6.2 Adding & Subtracting Rational Expressions

ex. $\frac{2}{3} + \frac{5}{12} - \frac{7}{30}$

2 | 12 → 2 | 6 → 3

2 | 30 → 2 | 15 → 3 | 5

2 | 60 → 2 | 30 → 3 | 20 → 4 | 15

3 = 3¹

12 = 2² · 3¹

30 = 2¹ · 3¹ · 5¹

lcd = 2² · 3¹ · 5¹ = 4 · 3 = 12 · 5 = 60

$$\frac{x+1}{x-3} + \frac{7 \cdot x^{-3}}{x+1 \cdot x^{-3}} = \frac{2(x+1) + 7(x-3)}{(x-3)(x+1) \text{ LCD}}$$

$$2x + 2 + 7x - 21$$

$$\text{lcd} = (x-3)(x+1) \quad \frac{2x+2+7x-21}{\text{lcd}}$$

$$\frac{9x - 19}{(x-3)(x+1)} \text{ ANS}$$

October 5 2012
6.2 CONT.

$$\textcircled{a} \frac{3}{x^2-4} + \frac{4}{2x+4} - \frac{1}{x-2} = \frac{3(2) + 4(x-2) - 1(2)(x+2)}{\text{lcd}}$$

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

$$\frac{6 + 4x - 8 - 2x - 4}{\text{lcd}}$$

$$\text{lcd} = 2(x+2)(x-2)$$

$$\frac{2x-6}{\text{lcd}}$$

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

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

$$\textcircled{a} \frac{4}{4(x+2)^2(x-1)} + \frac{7}{12(x-1)^4(x+3)} - \frac{3}{6(x-1)^5(x+3)^4(x-4)}$$

$$\text{lcd} = 12(x+2)^2(x-1)^5(x+3)^4(x-4)$$