continued notes for page 137

(5) $\frac{x}{3x-15} - \frac{2x+2}{x^2-4x-5}$

Factor Denominators

$\frac{x}{3(x-5)} - \frac{2x+2}{(x-5)(x+1)}$

Common Denominator: $3(x-5)(x+1)$

Re-write each fraction w/ the common denom.

$\frac{x}{3(x-5)} \cdot \frac{(x+1)}{(x+1)} = \frac{x^2+x}{3(x-5)(x+1)}$

$\frac{2x+2}{(x-5)(x+1)} \cdot \frac{3}{3} = \frac{6x+6}{3(x-5)(x+1)}$

$\frac{x^2+x-(6x+6)}{3(x-5)(x+1)} = \frac{x^2-5x-6}{3(x-5)(x+1)}$

$= \frac{(x-6)(x+1)}{3(x-5)(x+1)}$

$= \frac{x-6}{3(x-5)}$

Put these notes on page 138

(6) $\frac{1}{3x^2} + \frac{x}{9x^2-12x}$

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

Common Denom: $3x^2(3x-4)$

$\frac{1}{3x^2} \cdot \frac{(3x-4)}{(3x-4)} = \frac{3x-4}{3x^2(3x-4)}$

$\frac{x}{3x(3x-4)} \cdot \frac{x}{x} = \frac{x^2}{3x^2(3x-4)}$

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

P. 586 / 3-30 due Monday