

Written assignments
to hand in.

Section P7 56, 64
Due Friday 9/15

Section P8 28, 46
Due Monday 9/18

Discussion Problems
From the department syllabus
These are not to hand in.

Section P7, P8

WebAssign

Sections P5+P6
Due Wednesday 9/13
by 9pm.

Sections P7+P8
Due Monday 9/18, 9pm.

Section P7

(15) Simplify

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

(19)

$$\frac{x^2+5x+6}{x^2+8x+15} = \frac{(x+2)(\cancel{x+3})}{(\cancel{x+3})(x+5)} = \boxed{\frac{x+2}{x+5}}$$

(27)

$$\frac{x^2+2x-15}{x^2-25} \cdot \frac{x-5}{x+2} = \frac{(\cancel{x+5})(x-3)(\cancel{x-5})}{(\cancel{x+5})(\cancel{x-5})(x+2)} = \boxed{\frac{x-3}{x+2}}$$

33) $\frac{x+3}{4x^2-9} \div \frac{x^2+7x+12}{2x^2+7x-15}$ non-standard notation. Should be written as follows

$$\frac{\frac{x+3}{4x^2-9}}{\frac{x^2+7x+12}{2x^2+7x-15}} = \frac{x+3}{4x^2-9} \cdot \frac{2x^2+7x-15}{x^2+7x+12} = \frac{(x+3)(2x-3)(x+5)}{(2x-3)(2x+3)(x+3)(x+4)}$$

$$= \boxed{\frac{x+5}{(2x+3)(x+4)}}$$

$$= \boxed{\frac{x+5}{2x^2+11x+12}}$$

39) Add + simplify result

$$1 + \frac{1}{x+3} = \frac{x+3}{x+3} + \frac{1}{x+3} = \boxed{\frac{x+4}{x+3}}$$

43)

$$\frac{3}{x+1} - \frac{1}{x+2} = \frac{3}{x+1} \cdot \frac{x+2}{x+2} - \frac{1}{x+2} \cdot \frac{x+1}{x+1}$$

↑
 least
 common
 denominator
 $(x+1)(x+2)$

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

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

(55) Add and simplify

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

↑
 least
 common
 denominator
 $x(x-1)$

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

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

$$\frac{2x-2+3x+4}{x(x-1)} = \boxed{\frac{5x+2}{x(x-1)}}$$

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$$\frac{1 + \frac{1}{x}}{\frac{1}{x} - 2} = \frac{\frac{x}{x} + \frac{1}{x}}{\frac{1}{x} - \frac{2x}{x}} = \frac{\frac{x+1}{x}}{\frac{1-2x}{x}} = \frac{x+1}{x} \cdot \frac{x}{1-2x}$$

Simplify the nested fractions to a single fraction and then simplify.

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

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

$$= \frac{x+1}{1-2x}$$