

DUE: Friday, April 9, 1999.

P1. Write each of the following as a single fraction in reduced factored form:

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

$$(2) \frac{1}{x^2 - 3x + 2} + \frac{1}{x^2 - 4x + 3} - \frac{1}{x^2 - 5x + 6}.$$

$$(3) \frac{2x + 1}{2x^2 - 5x + 3} - \frac{20}{2x^2 - x - 3}.$$

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

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

P2. Solve for x in each case:

$$(1) \frac{1}{x-2} + \frac{1}{x+1} = \frac{7}{x^2 - x - 2}.$$

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

$$(3) \frac{12}{x-3} - \frac{8}{x-1} = 1.$$

$$(4) \frac{1}{x^2 - x - 6} + \frac{1}{x^2 - 2x - 3} = \frac{5}{x^2 + 3x + 2}.$$

$$(5) \frac{x+2}{x-1} - \frac{9}{x+1} = 1.$$

P3. Bill and Bob agree to paint a house by working together. Bill could do the entire job by himself in 40 hours, while Bob could do the whole job alone in only 24 hours. How long does the job take when they work together?