

Math 06, Homework 6 on Sections 9.3, 9.4, 9.6
due Tue, March 12 at the start of class.

These first eight questions from the book are 2 points each. Write your work on a separate sheet. Show clearly all your working out and reasoning and check your answers match the ones in the book at the end of the section.

1. **Q21, p. 914.** Compute and simplify: $\frac{3}{b} - \frac{1}{b-3}$
 2. **Q31, p. 915.** Compute and simplify: $\frac{5}{x-9} + \frac{4}{9-x}$
 3. **Q35, p. 915.** Compute and simplify: $\frac{4m}{m^2-3m+2} - \frac{1}{m-2}$
 4. **Q7, p. 925.** Simplify: $\frac{\frac{x}{8}}{\frac{x^2}{4}}$
 5. **Q17, p. 925.** Simplify: $\frac{2 - \frac{1}{x}}{2 + \frac{1}{x}}$
 6. **Q11, p. 962.** Solve: $\frac{4}{x} + \frac{3}{4} = \frac{10}{x}$
 7. **Q27, p. 963.** Solve: $\frac{1}{x-2} - \frac{2}{x+2} = \frac{2}{x^2-4}$
 8. **Q43, p. 964.** Solve: $\frac{2x}{x-3} + \frac{2}{x-5} = \frac{3x}{x^2-8x+15}$
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These next seven questions are 2 points each. It is very important that you show clearly any work you had to do to get the answer and explain your reasoning.

- (9.3) **Q9.** Compute and simplify: $\frac{4}{w} + \frac{3}{w+1}$
- (9.3) **Q10.** Compute and simplify: $\frac{3}{x^2+2x+1} - \frac{x^2}{3x+3}$
- (9.4) **Q11.** Simplify: $\frac{\frac{1}{2}}{\frac{3}{4}}$

(9.4) Q12. Simplify: $\frac{\frac{m}{n} + 2}{\frac{m^2}{n^2} - 4}$

(9.4) Q13. Simplify: $2 + \frac{1}{2 + \frac{1}{2x}}$

(9.6) Q14. Solve: $\frac{1}{2} - \frac{3}{x} = \frac{5}{6x}$

(9.6) Q15. Solve: $\frac{3}{x-4} - \frac{4}{x^2-3x-4} = \frac{1}{x-1}$