Mth 28, Homework 4 on section 7.2

Due by Wed, Oct 15.

Write all your working out and answers neatly, using lots of space, and showing your work clearly. Each question is worth 2 points.

Section 7.2 Add and subtract rational expressions

(1) Perform the indicated operation and simplify: $\dfrac{5}{6}+\dfrac{2}{9}$

(Hint: the answer is not $\dfrac{7}{15}$. You need a common denominator!)

(2) Perform the indicated operation and simplify: $\dfrac{2x}{x+3}+\dfrac{6}{x+3}$

(Your final answer should just be a number.)

(3) Perform the indicated operation and simplify: $\dfrac{x}{x-2}-\dfrac{x^2-4x+4}{x-2}$

(4) Perform the indicated operation and simplify: $\dfrac{1}{x}-\dfrac{1}{3x}$

(The Least Common Denominator here is $3x$. Multiply top and bottom of the first fraction by the missing factor.)

(5) Perform the indicated operation and simplify: $\dfrac{3x}{x-3}+\dfrac{1}{2x+5}$

(This also needs a common denominator. Use $(x-3)(2x+5)$. No need to multiply out this denominator - leave it factored.)

(6) Perform the indicated operation and simplify: $\dfrac{1}{3x^2}+\dfrac{1}{2xy}+4$

(Hint: write 4 over 1 and use the LCD.)

(7) Perform the indicated operation and simplify: $\dfrac{4}{m+3}-\dfrac{3}{m+4}$

(8) Perform the indicated operation and simplify: $\dfrac{2x^2-4}{2x^2+x-6}-\dfrac{x}{x+2}$

(Factor the denominators first. Your final answer should have $3x-4$ on top.)

(9) Perform the indicated operation and simplify: $\dfrac{2y}{y^2+2y-8}+\dfrac{4}{y^2+3y-10}$

If you get stuck on a question or aren't sure if you understand it:

- Go over the relevant class notes and section in the textbook.
- Check if you get the right answer for a similar odd-numbered question in the textbook (answers at the back of the book).
- Ask me about it after class.
- Come to my office hours: Mon 11:30 - 12:30, Wed 11:30 - 12:30 in CP 317.
- Go to the Math Tutorial Lab in-person in CP 303 or online.