

Mth 28, Homework 5 on sections 7.1, 7.2

Due by Wed, Mar 6.

Please use lots of space and explain your answers, showing clearly any work you had to do. Each question is worth 2 points.

(1) Perform the indicated operation and simplify: $\frac{7x + 28}{x - 7} \div (x^2 - 3x - 28)$

(Write the second expression as a fraction first by putting it over 1.)

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

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

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

(Your final answer should just be a number.)

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

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

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

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

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

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

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

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

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

(Your final answer should have $3x - 4$ on top.)

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

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 12:00 - 1:00, Wed 12:00 - 1:00 in CP 317.
- Go to the Math Tutorial Lab in-person in CP 303 or online.