

## Mth 28, Homework 4 on section 7.1

Due by Wed, Feb 28.

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Please use lots of space and explain your answers, showing clearly any work you had to do. Each question is worth 2 points. Do the questions about fractions by hand – I don't want any decimals.

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(1) Simplify this fraction:  $\frac{30}{42}$

(2) Simplify this rational expression:  $\frac{10x - 20}{x^2 - 2x}$

(Hint: look for common factors to cancel from top and bottom.)

(3) Simplify:  $\frac{2x - 3}{3 - 2x}$

(4) Give the  $x$  values where this rational expression is undefined:  $\frac{x^2 - 1}{x^2 + 3x - 18}$

(Hint: find where the bottom equals zero. So solve  $x^2 + 3x - 18 = 0$ .)

(5) Perform the indicated operation and simplify:  $\frac{5}{6} \cdot \frac{9}{10}$

(I hope you multiplied straight across.)

(6) Perform the indicated operation and simplify:  $\frac{x + 4}{x^2 + 3x - 18} \cdot \frac{x - 3}{16 - x^2}$

(7) Perform the indicated operation and simplify:  $\frac{7}{10} \div \frac{4}{5}$

(Flip over the second fraction and change the division to multiplication. Your final answer should have an 8 on the bottom.)

(8) Perform the indicated operation and simplify:  $\frac{4x^2 + x - 5}{x^3 - x^2} \div \frac{x^2 + 3x + 2}{x^2 + 2x}$

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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.