

## MAC1140 Written Homework 2

Due: 9/11/2015

1. Simplify the difference quotient  $\frac{\sqrt{25+h}-5}{h}$ .

2. Multiply the rational expression and simplify the result:

$$\frac{x^2 - 2x - 15}{x^2 + 2x + 1} \cdot \frac{x+1}{x+3}$$

3. Divide the rational expression and simplify the result:

$$\frac{-x+4}{x^2-16} \div \frac{x-6}{x^2-8x+15}$$

4. Solve  $-3(x + 6) + 1 = 4(6x - 1)$ .

5. Solve  $\frac{6x}{x^2 - 1} = \frac{-4}{x^2 - 1} - \frac{-2}{x - 1}$ .

6. Solve  $x^2 - 9x = -18$ .

7. Solve by completing the square:  $-4x^2 + 8x + 59 = 0$ .