

University of Calgary
Faculty of Science
Department of Mathematics and Statistics

Math 249

Fall 2005

Worksheet 1 (Inequalities)

1. Determine the range of values of x for which the following inequalities hold:

a. $3x - 4 \leq 2(x - 4) + 5x$

b. $\frac{2}{2x + 1} \geq \frac{3}{4}$

c. $\frac{3x^2 + x - 2}{(3x - 1)(x + 2)} \leq 0$

d. $3 + \frac{7}{x - 2} \geq \frac{1}{x - 1}$

e. $\frac{4}{x - 2} < -3 - \frac{2}{x + 1}$

2. In each case determine the range of values of x for which the following inequalities hold:

a. $|2x - 3| > 4$

b. $|2x - 3| \leq |3x + 4|$

c. $|2x - 3| < 0$

d. $|3x + 1| > 0$

e. $\left| \frac{x - 3}{2x - 1} \right| \leq 1$