

**MATH 14 PROF. ALFRED DOLICH TEST #2 APRIL
15, 2013**

Please do the following eight problems. Please show all of your work for ANY partial credit and please write neatly. You may use a calculator on any of the problems. Each problem is worth ten points.

- (1) Solve, present your answer in both graphical and interval form:

$$-3 \leq -2x + 5 \leq 7$$

- (2) Solve:

$$|x + 2| = |x - 3|$$

- (3) Solve, present your answer both in graphical and interval form:

$$|3x - 1| < 4$$

- (4) Find the x and y intercepts of the graph of the equation:

$$y = x^3 - x$$

(5) Determine any symmetry of the graph of the equation of:

$$x^3 + x^2 = y + x^4$$

(6) Find the center and radius of the circle given by:

$$x^2 + y^2 + 4x - 2y = 0$$

- (7) Suppose the points $(1, 2)$ and $(3, b)$ are distance 5 apart. Find all possible values of b .

- (8) Sketch the graph of the line

$$y + 2x = 3$$

- (9) Find the equation of a line through the point $(4, 2)$ and parallel to the line $y = -x + 2$.