

Math 002 P1

Name: *Solutions*

Quiz # 7

November 4, 2014 No electronic devices or interpersonal communication allowed. Show work to get credit.

Solve the following inequalities. Give your answers in each of the following ways: 1. a simplified algebraic expression, 2. interval notation, and 3. a graphical representation (number line).

(1)  $3x + 7 < 9 - 2x$

$+2x \quad -7 \quad -7+2x$

$5x < 2$

$x < \frac{2}{5}$

$(-\infty, \frac{2}{5})$



(2)  $3x + 7 < (9 - 2x) + 5x$

$3x + 7 < 9 + 3x$

$-3x \quad -3x$

$7 < 9$

every <sup>real #</sup> is a solution.

$(-\infty, \infty)$



(3)  $0 \leq 7 - x < 4$

$-7 \quad -7 \quad -7$

$-7 \leq -x < -3$

$7 \geq x > 3$

$(3, 7]$

