Name _____ Student No._____ G___/____ Date: _____Score: _____
Nickname: _____ Worksheet No.: _____

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 6] \cup (-4, \infty)$

Simpliest Form: $(-\infty, \infty)$

2) $[-8, 0] \cup [-8, 0]$

Simpliest Form: $[-8, 0]$

3) $(-2, 3] \cup (-7, 4]$

Simpliest Form: $(-7, 4]$

4) $(-\infty, 4] \cup (-3, 9]$

Simpliest Form: $(-\infty, 9]$

5) $(-\infty, 2) \cup [7, 9] \cup [7, \infty)$

Simpliest Form: $(-\infty, 2) \cup [7, \infty)$

6) $(-\infty, 2] \cup [6, 10) \cup (7, \infty)$

Simpliest Form: $(-\infty, 2] \cup [6, \infty)$

Polynomial Inequality

B. Give the solution set to the given polynomial inequality.

1) $(x-1)^2 (x+1)^2 (x+2) \leq 0$

Solution Set: $(-\infty, -2] \cup \{-1, 1\}$

2) $(x+2)^2 (x+3) < 0$

Solution Set: $(-\infty, -3)$

3) $-(x-1)^3(x+2)(x+3) \leq 0$

Solution Set: $[-3,-2] \cup [1,\infty)$

4) $-(x-1)(x+2)^3 < 0$

Solution Set: $(-\infty,-2) \cup (1,\infty)$

5) $-(x-1)(x+2)^2 \geq 0$

Solution Set: $(-\infty,1]$

6) $(x+1)(x+2)(x+3)^3 \leq 0$

Solution Set: $(-\infty,-3] \cup [-2,-1]$

7) $(x+2)^2(x+3) \geq 0$

Solution Set: $[-3,\infty)$

8) $(x-1)(x+1)^3(x+2) \leq 0$

Solution Set: $(-\infty,-2] \cup [-1,1]$