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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 0] \cup [-7, \infty)$

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

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

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

3) $(-\infty, 4) \cup (5, \infty)$

Simpliest Form: $(-\infty, 4) \cup (5, \infty)$

4) $(-\infty, 5] \cup (-3, 11]$

Simpliest Form: $(-\infty, 11]$

5) $(-\infty, 4] \cup [4, 10) \cup (7, \infty)$

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

6) $(-\infty, 4] \cup [2, 9) \cup (6, \infty)$

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

Polynomial Inequality

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

1) $(x-1)^2 (x+2)^2 (x+3) > 0$

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

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

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

3) $-(x-2)(x-1)(x+1)^3 > 0$

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

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

Solution Set: $(-\infty, -3) \cup (-3, 1)$

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

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

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

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

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

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

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

Solution Set: $[-2, 2]$