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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 2) \cup (6, \infty)$

Simplest Form: $(-\infty, 2) \cup (6, \infty)$

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

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

3) $(-3, 4] \cup (-4, 1]$

Simplest Form: $(-4, 4]$

4) $(-\infty, 4] \cup (-2, 11]$

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

5) $(-\infty, 3] \cup [7, 11) \cup (7, \infty)$

Simplest Form: $(-\infty, 3] \cup [7, \infty)$

6) $(-\infty, 2] \cup [2, 12) \cup (5, \infty)$

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

Polynomial Inequality

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

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

Solution Set: $(1, \infty)$

2) $(x+1)(x+2)(x+3) \geq 0$

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

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

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

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

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

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

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

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

Solution Set: $[-3, -1] \cup \{1\}$

7) $(x+1)(x+2)(x+3) > 0$

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

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

Solution Set: $(2, \infty)$