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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-1, 3) \cup [0, \infty)$

Simplest Form: $[-1, \infty)$

2) $(-\infty, 7] \cup (3, 9]$

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

3) $[-4, 7] \cup [-3, 5]$

Simplest Form: $[-4, 7]$

4) $[-5, 3) \cup [2, \infty)$

Simplest Form: $[-5, \infty)$

5) $(-\infty, 4) \cup [1, 12] \cup [6, \infty)$

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

6) $(-\infty, 3] \cup [3, 11) \cup (6, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

Solution Set: $(1, \infty)$

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

Solution Set: $(-\infty, -2]$

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

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

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

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

8) $(x+1)^4 \geq 0$

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