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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-1, 2) \cup [-3, \infty)$

Simplest Form: $[-3, \infty)$

2) $[-1, 4) \cup [-4, \infty)$

Simplest Form: $[-4, \infty)$

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

Simplest Form: $[-4, 2) \cup [3, \infty)$

4) $(-\infty, 3] \cup (-2, 10]$

Simplest Form: $(-\infty, 10]$

5) $(-\infty, 4) \cup [1, 11] \cup [5, \infty)$

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

6) $(-\infty, 2] \cup [4, 10) \cup (7, \infty)$

Simplest Form: $(-\infty, 2] \cup [4, \infty)$

Polynomial Inequality

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

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

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

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

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

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

Solution Set: $\{-2, 1\}$

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

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

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

Solution Set: $(-3, -2)$

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

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

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

Solution Set: $(1, \infty)$

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

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