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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-7, 0] \cup [-8, 0]$

Simpliest Form: $[-8, 0]$

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

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

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

Simpliest Form: $(-\infty, 3) \cup (7, \infty)$

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

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

5) $(-\infty, 3) \cup [4, 11] \cup [7, \infty)$

Simpliest Form: $(-\infty, 3) \cup [4, \infty)$

6) $(-\infty, 2] \cup [4, 11) \cup (6, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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