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

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 3) \cup [-5, -1]$

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

2) $(-\infty, 6] \cup (-8, \infty)$

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

3) $[-7, 5] \cup [-6, 5]$

Simpliest Form: $[-7, 5]$

4) $[-6, 5] \cup [-8, 2]$

Simpliest Form: $[-8, 5]$

5) $(-\infty, 3) \cup [3, 10] \cup [6, \infty)$

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

6) $(-\infty, 2) \cup [7, 10] \cup [5, \infty)$

Simpliest Form: $(-\infty, 2) \cup [5, \infty)$

Polynomial Inequality

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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