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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

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

2) $[-5, 5] \cup [-3, 6]$

Simpliest Form: $[-5, 6]$

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

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

4) $(-5, 2] \cup (-4, 2]$

Simpliest Form: $(-5, 2]$

5) $(-\infty, 2) \cup [4, 12] \cup [7, \infty)$

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

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

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

Polynomial Inequality

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

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

Solution Set: $[-2, \infty)$

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

Solution Set: $\emptyset$

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

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

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

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

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

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

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

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

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

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

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

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