

Name _____ Student No. _____ G____/____ Date: _____ Score: _____
Nickname: _____ Worksheet No.: _____

Simplifying Interval Notation

A. Simplify the given interval notation.

1) $[-3, 4) \cup [-3, \infty)$

4) $[-4, 4) \cup [0, \infty)$

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

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

2) $(-\infty, 2) \cup (5, \infty)$

5) $(-\infty, 2] \cup [3, 9) \cup (5, \infty)$

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

Simpliest Form: $(-\infty, 2] \cup [3, \infty)$

3) $[-2, 4) \cup [1, \infty)$

6) $(-\infty, 2) \cup [4, 11] \cup [5, \infty)$

Simpliest Form: $[-2, \infty)$

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

$$5) (x+1)(x+2)^3 \leq 0$$

$$\text{Solution Set: } [-2, -1]$$

$$6) -(x-1)(x+1)(x+2)(x+3) < 0$$

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

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

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

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

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