

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

Simplifying Interval Notation

A. Simplify the given interval notation.

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

4) $[-6, 4) \cup [-4, \infty)$

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

Simpliest Form: $[-6, \infty)$

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

5) $(-\infty, 4) \cup [7, 11] \cup [6, \infty)$

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

Simpliest Form: $(-\infty, 4) \cup [6, \infty)$

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

6) $(-\infty, 4] \cup [3, 12) \cup (5, \infty)$

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

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

Polynomial Inequality

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

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

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

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

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

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

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

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

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

$$5) \ -(x+1)^3 \geq 0$$

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

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

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

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

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

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

$$\text{Solution Set: } [-3, 2]$$