Simplifying Interval Notation

A. Simplify the given interval notation.

1) $(-\infty, 2) \cup (6, \infty)$

4) $(-3, 3] \cup (-7, 2]$

Simpliest Form: $(-\infty, 2) \cup (6, \infty)$

Simpliest Form: $(-7, 3]$

2) $[-7, 3) \cup [-4, -1)$

5) $(-\infty, 2] \cup [7, 11) \cup (5, \infty)$

Simpliest Form: $[-7, 3)$

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

3) $(-\infty, 2) \cup (0, \infty)$

6) $(-\infty, 3) \cup [6, 12] \cup [7, \infty)$

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

Simpliest Form: $(-\infty, 3) \cup [6, \infty)$

Polynomial Inequality

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

1) $-(x-1)(x+1)(x+2) \le 0$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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