

## 1.5 Polynomial Inequalities WS

Name \_\_\_\_\_

Use the critical value method to solve each polynomial inequality. Use interval notation to write each solution set.

1.  $x^2 + 2x - 15 \leq 0$

2.  $x^3 + 4x^2 > x + 4$

3.  $x^2 - 6x + 8 \geq 0$

4.  $-2x^2 + 10 < 8x$

5.  $x^4 - 10x^2 + 9 \geq 0$

6.  $2x^2 + 3x > 0$

7.  $x^3 - 3x^2 - 9x + 27 \leq 0$

8.  $x^2 < 3x - 2$

9.  $x^3 \geq 9x^2$

10. A shoe manufacturer finds that the monthly revenue  $R$  from a particular style of aerobics shoe is given by  $R = 312x - 3x^2$ , where  $x$  is the price in dollars of each pair of shoes sold. Find the interval, in terms of  $x$ , for which the monthly revenues is greater than or equal to \$5925.