Advanced Algebra Worksheet: Solving Polynomial Inequalities

Step 1: Find all the zeros of the polynomial, and then plot the solutions on the x-axis.

Step 1: Use appropriate end behavior and knowledge of repeated zeros to sketch the graph

Step 3: Write the solution set of the inequality using interval notation.

1. x3 – 3x2 > 10x \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. x3 – 4x ≥ 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. x3 – 3x2 – x + 3 < 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 2x3 – 3x2 – 32x > - 48 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. x3 – 6x ≤ 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. (x + 4)2(x – 4)(x – 3) < 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. x2(2x – 1)(x + 6) > 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. x5 – 8x3+ 12x > 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. -6x2 – 17x + 3 ≤ 0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_