

MHF4U_2011: Advanced Functions, Grade 12, University Preparation
Unit 1: Introduction to Polynomial Functions
Activity 8: Solving Inequalities Part 1

HW Assignment – Solving Polynomial Inequalities

Solve for x:

1. $x^3 - x^2 - 20x > 0$

2. $x^3 + 10x^2 + 21x < 0$

3. $2x^3 - x^2 - 15x + 18 \geq 0$

4. $x^3 + x^2 + x < 14$

5. $x^4 + 9x + 18 \leq x^3 + 11x^2$

Check your solution set by graphing each of the corresponding polynomial functions.

HW Assignment – Solving Polynomial Inequalities SOLUTIONS

Solve for x:

1. $x^3 - x^2 - 20x > 0$

$-4 < x < 0$, and $x > 5$

2. $x^3 + 10x^2 + 21x < 0$

$x < -7$, and $-3 < x < 0$

3. $2x^3 - x^2 - 15x + 18 \geq 0$

$-3 \leq x \leq 1.5$, and $x \geq 2$

4. $x^3 + x^2 + x < 14$

$x < 2$

5. $x^4 + 9x + 18 \leq x^3 + 11x^2$

$-3 \leq x \leq -1$, and $2 \leq x \leq 3$