

M325K Cubic Assignment

1. Find the Cantor expansions for a. 14 b. 384 c. 10,000,000

2. Find the Cantor expansions for a. $13/6$ c. $614/7$

3. Find the Horner Rule expansions for

a. $6x^4 - 11x^3 + 4x^2 - 3x + 4$

b. $5x^3 - x^2 + 5x - 1$

4. Use the $x = y - b/na$ substitution to eliminate the second term of each of the two polynomials in Problem 3.

5. Find the rational roots of the polynomials in Problem 3.

6. Solve the following cubic equations, using the “cubic method.”

a. $x^3 - 5x^2 + 7x - 3 = 0$

b. $10x^3 - 21x^2 - 45x - 14 = 0$

c. $x^3 - 3x - 6 = 0$.