

MHF4U: Grade 12 Advanced Functions (Catholic)
Unit 1: Introduction to Polynomial Functions

Activity 5: Finding the roots of polynomial functions

Homework Assignment: Getting to the root of the problem

Determine the roots for each polynomial equation:

1. $x^3 - 3x^2 - 4x + 12 = 0$

2. $x^3 - 4x^2 + x + 6 = 0$

3. $x^3 - x^2 = 16x + 20$

4. $3x^3 + x^2 - 3x - 1 = 0$

5. $2x^3 - x^2 - 15x + 18 = 0$

6. $4x^3 - 7x^2 = 21x - 18$

7. $x^4 - x^3 - 11x^2 + 9x + 18 = 0$

8. $x^4 + x + 12 = x^3 + 13x^2$

9. $x^4 - 1 = 0$

10. $6x^3 + 7x^2 = 43x + 30$

Assignment: Getting to the root of the problem – ANSWERS

1. $x = -2, x = 2, x = 3$

2. $x = -1, x = 2, x = 3$

3. $x = -2, x = 5$

4. $x = -1, x = -\frac{1}{3}, x = 1$

5. $x = -3, x = \frac{3}{2}, x = 2$

6. $x = -2, x = \frac{3}{4}, x = 3$

7. $x = -3, x = -1, x = 2, x = 3$

8. $x = -3, x = -1, x = 1, x = 4$

9. $x = -1, x = 1$

10. $x = -3, x = \frac{-2}{3}, x = \frac{5}{2}$