

Hybleland L9-Lesson 21 Polynomial I-Assignment

Practice 1. (AHSME)

Find the remainder when $x^{13} + 1$ is divided by $x - 1$.

Practice 2. (MAΘ 1991)

Give the remainder when $x^{203} - 1$ is divided by $x^4 - 1$.

Practice 3. (MAΘ 1991)

Find all values of m which will make $x + 2$ a factor of $x^3 + 3m^2x^2 + mx + 4$.

Practice 4. (AHSME)

Let $f(x) = ax^7 + bx^3 + cx - 5$, where a , b , and c are constants. If $f(-7) = 7$, then find $f(7)$.

Practice 5.

Find all the roots of $2x^3 - 5x^2 + 4x - 1$.

Practice 6.

Find the roots of $x^4 + x^3 + 2x^2 + 17x - 21$.

Practice 7. (M&IQ 3)

Solve the equation $(x+1)(x+2)(x+3)(x+4) = -1$.

Practice 8.

AMC10A 2020 / Problem 17

Define $P(x) = (x - 1^2)(x - 2^2) \cdots (x - 100^2)$

How many integers n are there such that $P(n) \leq 0$?

A. 4900 B. 4950 C. 5000 D. 5050 E. 5100

Practice 9.

AMC10A 2017 / Problem 24

For certain real numbers a , b , and c , the polynomial $g(x) = x^3 + ax^2 + x + 10$ has three distinct roots, and each root of $g(x)$ is also a root of the polynomial $f(x) = x^4 + x^3 + bx^2 + 100x + c$. What is $f(1)$?

A. -9009 B. -8008 C. -7007 D. -6006 E. -5005