

1. What does Eisenstein's criterion say about a prime p and

$$f(x) = a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x + a_0 \in \mathbb{Z}[x].$$

2. How is factoring polynomials in $\mathbb{Z}[x]$ like factoring integers?

3. (True/False) $\frac{x^7-1}{x-1}$ is irreducible (x to seven)

4. (True/False) $\frac{x^4-1}{x-1}$ is irreducible.