CS 170 Efficient Algorithms and Intractable Problems **Section Notes**

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1 Polynomials

1. Why polynomials matter
2. What the field of a polynomial is
3. The space of polynomials
4. Coefficient Basis
5. Evaluation Basis for arbitrary points $\xi_1, \ldots, \xi_n$
6. Evaluation Basis for roots of unity
7. Why the linear isomorphism is neat

2 Coefficient vs Evaluation Basis

1. Coefficient Basis is good for Addition and Evaluation
2. Evaluation Basis is good for Addition and Multiplication

3 Problems from general TA Section Notes