

Homework 4, due Friday 9/24

1. Find the unique polynomial of degree 3 which goes through the points $(-2, 0)$, $(-1, 1)$, $(0, 4)$, $(2, 1)$.
2. p. 165, problem 2 (a), (b), (c), (d) (Use the definition of the determinant)
3. p. 166, problem 3 (Use the definition of the determinant)
4. Compute the determinant of

$$\begin{pmatrix} 2 & 0 & 5 \\ 3 & 0 & 7 \\ 1 & 1 & 1 \end{pmatrix}$$

- (a) using the first column,
 - (b) using the second column.
 - (c) Compare the results and the amount of work involved.
5. p. 166, problem 8
 6. Compute the determinant of

$$\begin{pmatrix} 2 & 3 & -1 \\ 3 & 7 & 2 \\ 1 & 0 & 3 \end{pmatrix}$$

- (a) using the definition of the determinant,
- (b) by first turning the matrix into an upper triangular matrix using elementary row operations.
- (c) Compare the results and the amount of work involved.