AMSC/CMSC 466: HW #10
Due: Tuesday 5/3/16 (in class)

1. Find a formula of the form
$$\int_0^1 xf(x)dx \approx \sum_{i=0}^{1} A_i f(x_i)$$
that is exact for all polynomials of degree 3.

2. Find a formula of the form
$$\int_0^1 xf(x)dx \approx \sum_{i=0}^{2} A_i f(x_i)$$
that is exact for all polynomials of degree 5.

3. Find a formula of the form
$$\int_{-1}^1 x^2 f(x)dx \approx \sum_{i=0}^{1} A_i f(x_i)$$
that is exact for all polynomials of degree 3.