**Q2**

a = 1.8314

b = -2.8289

c = 0.9759



Figure 1.1 Data points and fit.

MATLAB code:

rand("seed", 314);

x = linspace(0, 1, 30).';

y = 2\*x.^2 - 3\*x + 1 + 0.05\*randn(size(x));

A = zeros(size(x, 1), size(x, 2)+2);

for i = 1:3

A(:, i) = x.^(3-i);

end

params = (A.'\*A)\A.'\*y;

fit = polyval(params, x);

figure;

xlabel("Data Index");

ylabel("Data Value");

plot(x, y, "\*");

hold on;

plot(x, fit);

legend("Data", "Fit");