

ESO 208A; ESO 218

Computational methods in engineering

Tutorial # 5

September 12, 2013

1. Solve the following system of equations using jacobi method:

$$2x_1 - 6x_2 - x_3 = -38$$

$$-3x_1 - x_2 + 7x_3 = -34$$

$$-8x_1 + x_2 - 2x_3 = -20$$

2. Use least-squares regression to fit a straight line to

x: 2 4 6 7 10 11 14 17 20

y: 1 2 5 2 8 7 6 9 12

- a. Find the slope, intercept, standard error of the estimate and the correlation coefficient. Plot the data and assess the fit.
- b. Recompute (a) to fit a parabola. Compare results of (a) and (b).