

Homework for 6.5

18. True or False?
- (a) True. See the paragraph following the definition of a least-squares solution.
 - (b) False. If $\hat{\mathbf{x}}$ is the least-squares solution, then $A\hat{\mathbf{x}}$ is the point in the column space of A closest to \mathbf{b} . See Figure 1 and the paragraph preceding it.
 - (c) True. See the discussion following equation (1).
 - (d) False. The formula applies only when the columns of A are linearly independent. See Theorem 14.
 - (e) False. See the comments after Example 4.
 - (f) False. See the Numerical Note.
26. Do this one in Matlab. Should get that $a_0 = a_2 \approx 0.3536$ and $a_1 = 0.5$.