

20-11-7

1. $5\sqrt{200} = 5 * 14.14 = 70.7$ which rounds to 64 which is 8x8 so D=8
2. $\sigma_0 = D - 1 = 7$
3. $\sqrt{(.2 - .1)^2 + (.5 - .3)^2 + (.6 - .4)^2} - \sqrt{.1^2 + .2^2 + .2^2} = \sqrt{.09} = .3$
4. $\sigma(t) = \sigma_0 e^{\frac{-9}{100}t} = 7e^{-.63} = 3.73$
5. $L(t) = L_0 e^{-.63} = .9e^{-.45} = .48$
6. $\sqrt{(2 - 1)^2 + (2 - 1)^2} = \sqrt{2} = 1.414$
7. $\Theta(t) = e^{\frac{-2}{2 * 3.73^2}t} = .93$
8. $[.2, .5, .6] + .93 * .48 * [-.1, -.2, -.2] = [.2 - .04464, .5 - .08928, .6 - .08928] = [.16, .41, .51]$