EE125 – last Homework assignment!!

1) Do Proakis & Manolakis 6.8. Note this problem builds closely on the material in section 6.5.1 of the textbook

2) Which of the following signals can be downsampled by a factor of 2 (without applying any additional filtering) without loss of information? Briefly (at most, 1 sentence per signal) explain why

    a. $x(n) = \delta(n-K)$, where K is an unknown integer
    b. $x(n) = \cos(\pi\, n/4)$
    c. $x(n) = \cos(\pi\, n/4) + \cos(3\, \pi\, n/4)$
    d. $x(n) = \sin(\pi\, n/3) \;/\; (\pi\, n/3)$