HW 9 CS 355

(10,18) to (10,19)

1. $f(A) = (1-A)(f(10,18)) + A(f(10,19)) = (.8)(3) + (.2)(4) = 3.2$

   $f(A) = (.8)(6) + (.2)(8) = 6.4$

   (11,18) to (11,19)

   $f(A) = (.3)(3.2) + (.7)(6.4) =$ **5.44 at (10.7, 18.2)**

   (10,18.2) to (11,18.2)

2. Corners: (14,11), (14,23), (20,11), (20,23)

3. $[(17,16)-(14,20)] \cdot [(15,11)-(14,20)]_\perp = (3,-4)\cdot(9,1) = 23$

   $[(17,16)-(15,11)] \cdot [(20,13)-(15,11)]_\perp = (2,5)\cdot(-2,5) = 21$

   $[(17,16)-(20,13)] \cdot [(18,23)-(20,13)]_\perp = (-3,3)\cdot(-10,-2) = 24$

   $[(17,16)-(18,23)] \cdot [(14,20)-(18,23)]_\perp = (-1,-7)\cdot(3,-4) = 25$

   All signs are the same, thus (17,16) is in the quadrilateral.