Pop Quiz (Week 8) [15 mins] – 14 pts

Name:_____

Student ID: _____

Mark **all** that apply

1) **[1+2 = 3]** Consider the geometric transformations given by $x' = axy+bx+cy+d$ and $y' = exy+fx+gy+h$.

a) This is a

i) Linear Transformation

ii) Non-linear Transformation

iii) Quadratic Transformation

iv) Cubic Transformation

b) The number of correspondences required to find the parameters of this transformation are

i) 7

ii) 6

iii) 5

iv) 4

2) **[2+4=6]** Consider two colors represented in *(Y,x,y)* notation as C1 = (100, 0.2, 0.4) and C2=(200, 0.5, 0.2).

a) The tristimulus value of C1 is

i) (100, 50, 100)

ii) (50,100, 100)

iii) (20, 40, 40)

iv) (40, 20, 40)

b) The tristimulus value of the combination of C1 and C2 is given by

i) (300, 550, 400)

ii) (550, 300, 400)

iii) (120, 80, 100)

iv) (80, 120, 100)

3) **[1]** I changed one of the brightness and contrast control of the TV and I started seeing a overall washed out appearance with severe burning out effects of higher gray levels. What operation did I perform?

a) Increase brightness

b) Increase contrast

c) Decrease brightness

d) Decrease contrast

4) **[3]** In dithering application, I want to use 4 different levels of gray to generate at least 25 different levels of gray. What should be the factor by which I should give up spatial resolution is each direction.
   a) 2
   b) 3
   c) 4
   d) 5

5) **[1]** In image blending, the blending width to be used depends on the
   a) Size of the image
   b) Size of the features
   c) Shape of the blending functions