

Student Name: \_\_\_\_\_

1.- Consider a 2D rotation matrix operating on a 2D point  $(x,y)$ , is there a point which after being pre-multiplied by the rotation matrix remains constant? Explain

2.- Consider a 2D point in homogeneous coordinates  $(x,y,1)$ , write a single linear operation matrix operation that yields the 2D vector  $(3x+5,4y+6)$  in non-homogeneous coordinates. How would your matrix change if you were required to generate the output in homogeneous coordinates?