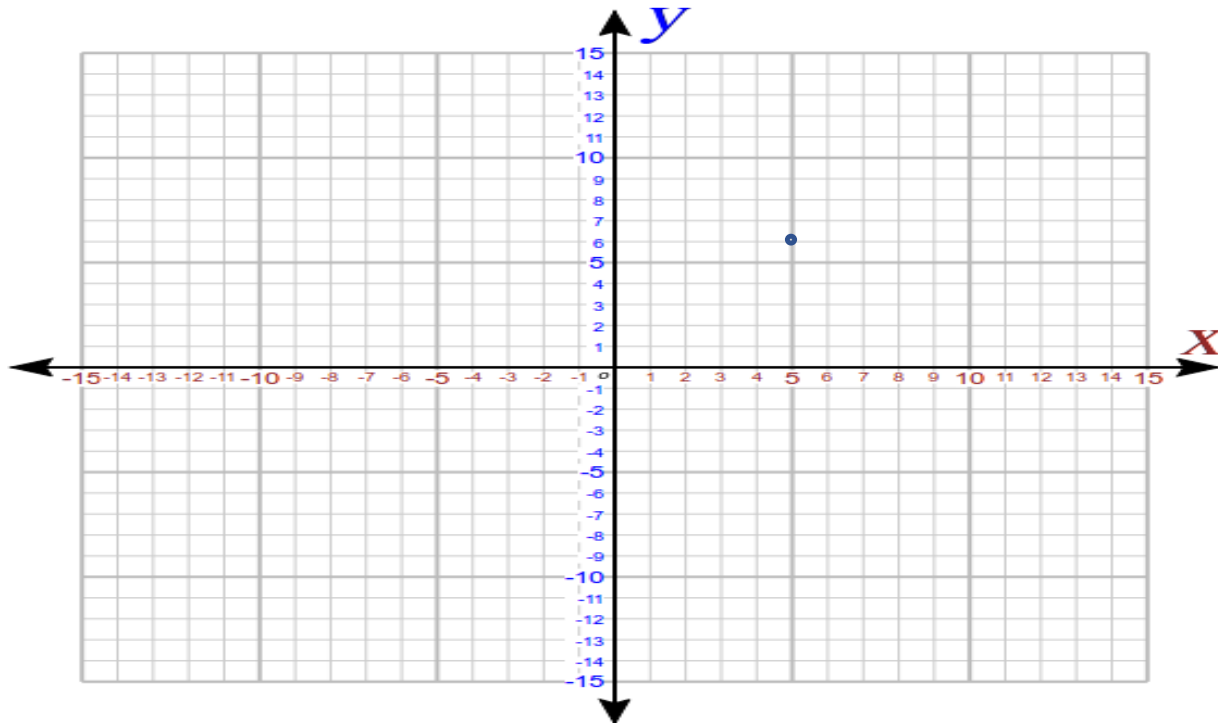


CSC-133 – Spring 2019

Attendance Quiz

Student Name: _____

Transformation: Using a 3D transformation matrix, firstly, translate the point (5,6) by 3 in the x direction and -2 in the y direction and then rotate it anti-clockwise by 30 degrees about (0,0).



You are given the following information:

Translation

Suppose a 2-D point is translated by an amount a in the x -direction and b in the y -direction then the matrix used to represent this is

$$T_{(a,b)} = \begin{bmatrix} 1 & 0 & a \\ 0 & 1 & b \\ 0 & 0 & 1 \end{bmatrix}$$

Rotation

Suppose a 2-D point is rotated about (0,0) anti-clockwise by an angle θ then the matrix used to represent this is

$$R_{\theta} = \begin{bmatrix} \cos \theta & -\sin \theta & 0 \\ \sin \theta & \cos \theta & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

Show all the matrices computation work here: (10 points)

Draw your final transformation of this result here: (10 points)

