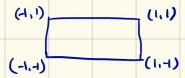
*. objects : 

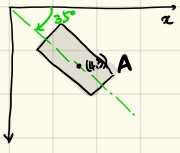
bar : array of the four vertices

star : array of the five vertices.

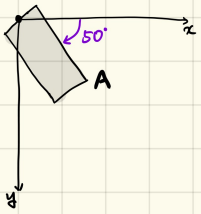
Find T_A

$\begin{cases} T(a,b) : \text{translation by } \begin{pmatrix} a \\ b \end{pmatrix}. \\ R(\omega) : \text{rotation by } \omega. \end{cases}$

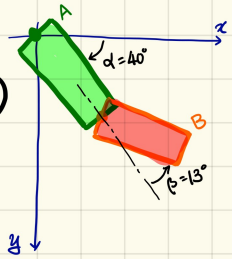
1. (5)



2. (5)

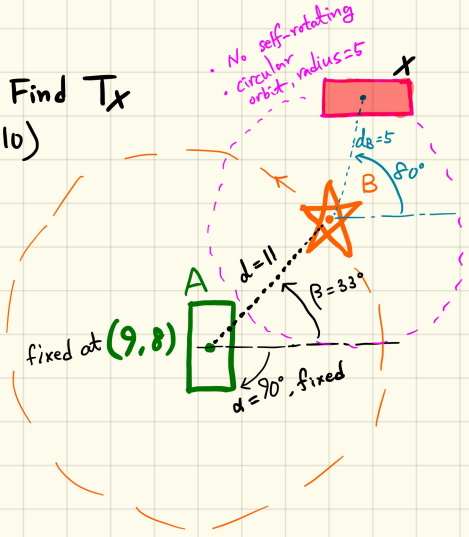


3. (10)



Find T_A & T_B

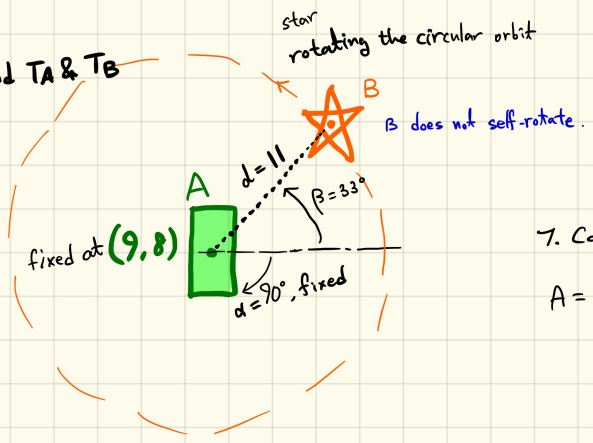
5. Find T_X (10)



6. Calculate. (5)

$$A = \begin{bmatrix} \cos(\alpha) & -\sin(\alpha) & 0 \\ \sin(\alpha) & \cos(\alpha) & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & x \\ 0 & 1 & y \\ 0 & 0 & 1 \end{bmatrix}$$

4. Find T_A & T_B (10)



7. Calculate (5)

$$A = \begin{bmatrix} 1 & 0 & x \\ 0 & 1 & y \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \cos(\alpha) & -\sin(\alpha) & 0 \\ \sin(\alpha) & \cos(\alpha) & 0 \\ 0 & 0 & 1 \end{bmatrix}$$