1-9- Lab - Matrix work.

2 x 4 matrix — Isaac Abella.

$$X\begin{bmatrix} +T_2\cos(\theta_2), T_3\cos(\theta_3), -T_4(\theta_4), -T_1\cos(\theta_1) \\ -T_2\sin(\theta_2), T_3\sin(\theta_3), T_4(\theta_4), -T_1\sin(\theta_1) \end{bmatrix}$$

50 ref for answer.

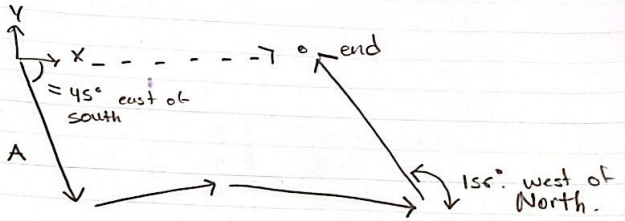
$T_1 = 57\,n$
$\theta_1 = 34$ deg
$\theta_2 = 155$ deg $= 25$ deg.
$T_3 = 37\,N$
$\theta_3 = -123$ deg $= +57$,
$\theta_4 = -80$ deg.

T_1
X: 47.255'14164,
Y: 31.873'4455

T_3
X: 20.151'6443
Y: 31.030'8'1101

$$\begin{bmatrix} -T_2\cos(25) + T_4\cos(80) = 57\cos(25) - 37\cos(57) \\ -T_2\sin(25) - T_4\sin(80) = 57\sin(25 - 37\sin(57) \end{bmatrix}$$

Angle between start and end. 1b a.



average of angles =
34.3 deg North of East.