Homework Problem H3.B

Given: Pre-tensioned cables AB and AD, having tensions of $2T$ and T, respectively, are attached to end A of the L-shaped bracket and exert forces of $\vec{F}_{AB}$ and $\vec{F}_{AD}$, respectively, on the bracket due to these tensions.

Find:

a) Determine the vector projection of $\vec{F}_{AB}$ onto cable AD.

b) Determine the vector projection of $\vec{F}_{AD}$ onto cable AB.

c) Determine the angle that exists between cables AD and AB.

Use the following parameter value in your analysis: $\phi = 25°$.