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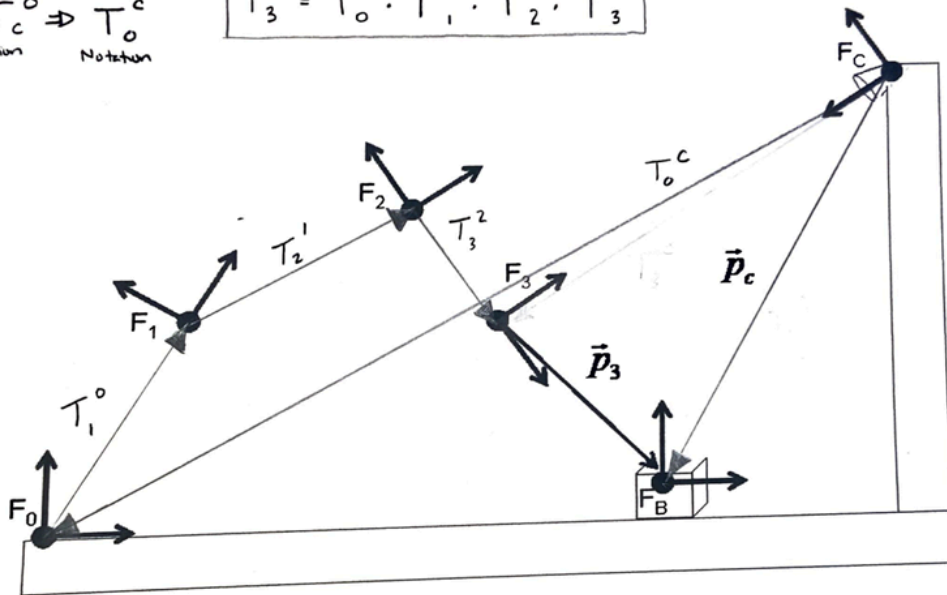
RBE3001 C21

Homework 2

2/10/2021

Question 1:

Question 1A:

a. On the figure below (or a redrawn figure if you prefer) clearly show and label all necessary intermediate transformations between frames. You must label all relevant the coordinate frames, vectors, and transformations. *Be sure to define your notation if different than the one used in class.*

$$(T_o^c)^{-1} = T_c^o \Rightarrow T_o^c$$

Class notation → HW Notation

$$T_3^c = T_o^c \cdot T_1^o \cdot T_2^1 \cdot T_3^2$$

Questions 1B through 1D:

$$b) \quad T_3^o = T_1^o \cdot T_2^1 \cdot T_3^2$$

$$c) \quad T_B^o = T_o^c \cdot \vec{P_c}$$

$$d) \quad \vec{P_3} = [T_3^o]^{-1} \cdot T_B^o \Rightarrow \boxed{\vec{P_3} = T_o^3 \cdot T_B^o}$$