**Maria Angel Palacios Sarmiento**

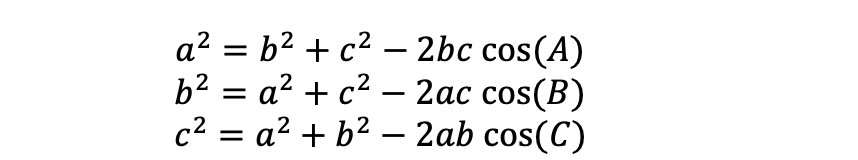
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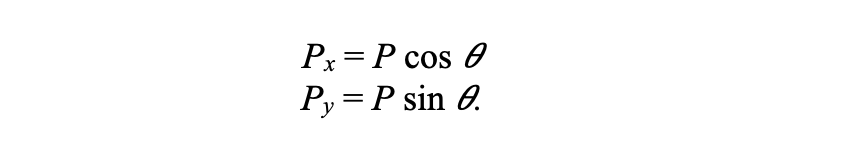
**Week 10-Physicial Trig 2 Link Planar Robot – Engr 101**

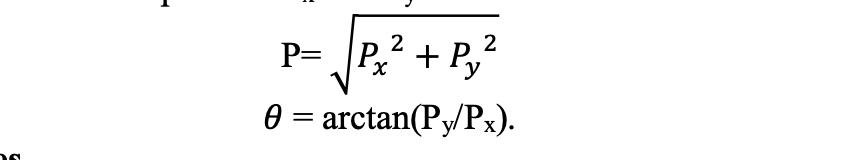
**Abstract:**

By the following virtual trig lab, we can say that for an object to attain equilibrium, it is necessary to measure two weights. In this case, the experiment wanted to prove that as the weight in the cup increased, so did the weight in the bucket. Having this idea in mind, we can continue calculating the reaction forces, where there is a joint of the reaction forces that must be calculated. It is important not to forget to convert the units that were previously in grams to kilograms, this in order to get an accurate answer. These values are in Newton and the sum of the reaction forces, force applied on the muscle, weights of arm and cup should equal to 0.

On the following order, it is asking us to use the law of cosines to calculate the length of the arm when it makes an angle of 45 degrees. First, we had to measure it and with these values calculate the length of the muscle. On the last order, it was asked to use direct kinematics formula of a two link robot, where the coordinates of O and A were (0,0) and (0, LoA), to find the points (x,y) of the two link robot.In order to perform these calculations, the formulas used, were the following:







By proving these formulas, we may say that the experiment was successful and the units used were the correct ones.