Program for Design of Belt Drive, Problem 3.

Problem Statement: A leather belt 9 x 250 mm is to drive a CI pulley 800 mm in diameter at 400 rpm. If active arc on smaller pulley is 1500 and the stress in the tight side 1.5 MPa, find the power transmitted. Take the density of leather as 1,000 kg/m3 and mu = 0.25.

Name: Avva Sai Pranav

USN: PES1201800861

clc;

clear all;

Intializing the known parameters:

D = 800

N = 400

t = 9

b = 250

tt = (150\*pi)/180

mu = 0.25

roh = 1000

w = roh\*9.81

S\_d = 1.5

Finding the velocity:

v = (pi\*(D+t)\*N)/(60\*1000)

[P] = Eqn14\_5\_a(b,t,v,S\_d,w,mu,tt)