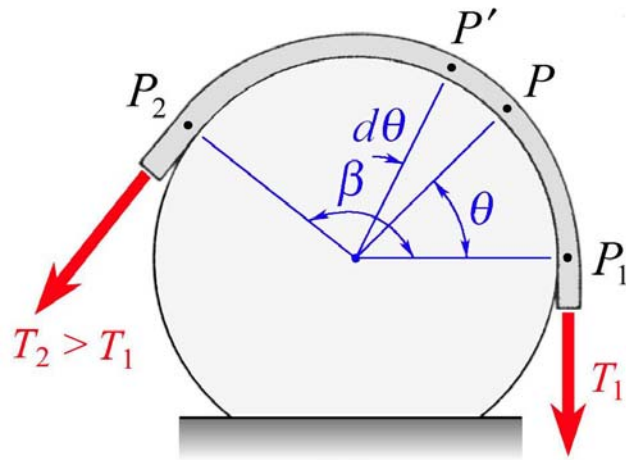# Quiz #9

Including a **free-body diagram** of the belt element *PP'* and **definitions** of all symbols used, **derive** the **formula** for a flat belt having an impending slipping around a drum as shown.

Flat belt friction formula:

$$T_2 = T_1 e^{\mu_s \beta}$$