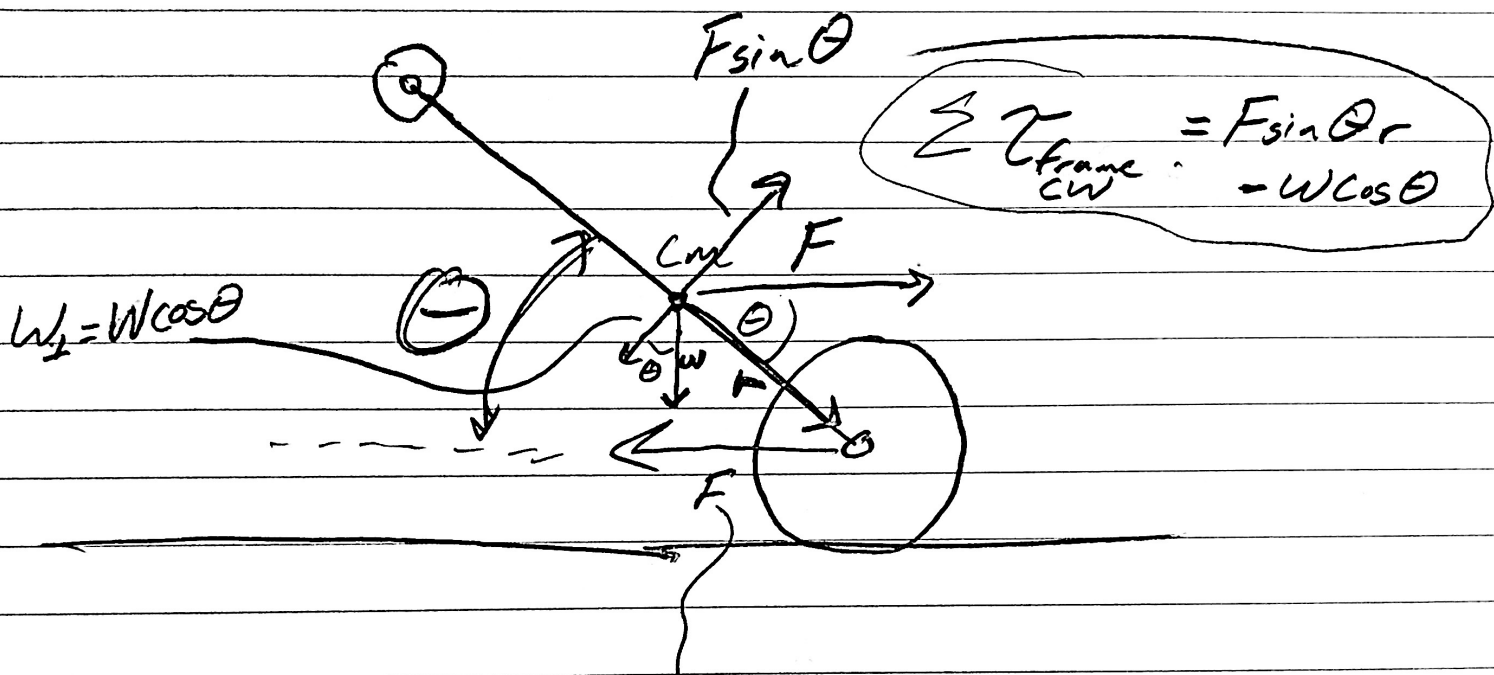


After CM passes height of rear axle (i.e. $\theta > 0$)...



Via frame, rear axle exerts force F on center of mass (CM), CM exerts equal and opposite force F on rear axle.