

5) Find the acceleration and the tension in the 2 ropes if the surface is frictionless.

3 kg Block:

$$\sum F = ma$$

$$T_1 - 29.4N = 3kg(0.58m/s^2)$$

$$T_1 = 31.1N$$

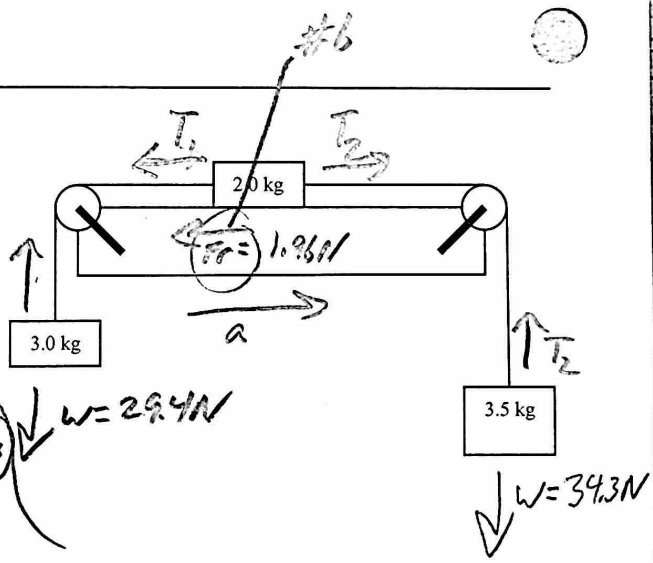
3.5 kg Block:

$$a = 0.58m/s^2$$

$$\sum F = ma$$

$$T_2 - 34.3N = 3.5kg(-0.58m/s^2)$$

$$T_2 = 32.3N$$



6) Repeat if the coefficient of kinetic friction is 0.10

3 kg Block:

$$\sum F = ma$$

$$T_1 - 29.4N = 3kg(0.35m/s^2)$$

$$T_1 = 30.5N$$

3.5 kg Block:

$$a = 0.35m/s^2$$

$$\sum F = ma$$

$$T_2 - 34.3N = 3.5kg(-0.35m/s^2)$$

$$T_2 = 33N$$