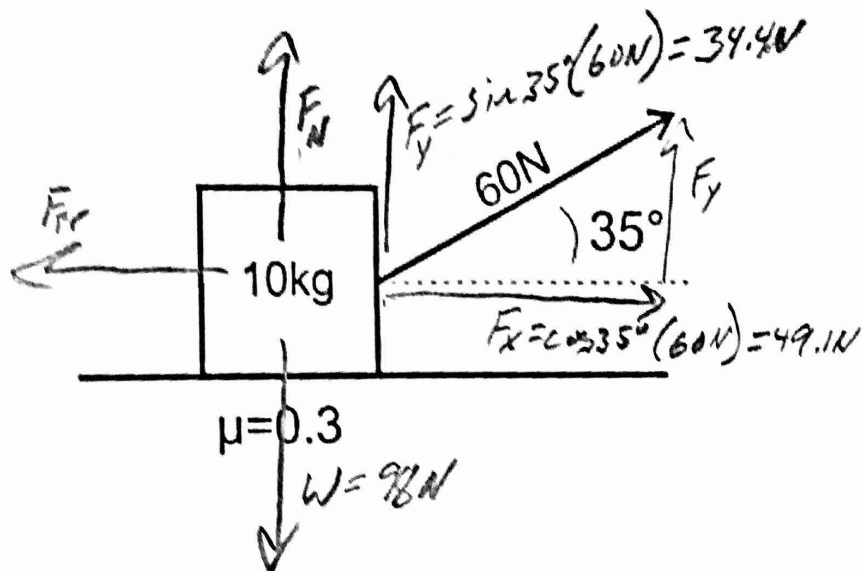3. Find the acceleration of the 10 kg mass.

$$\Sigma F_y = F_y + F_N - W = 0$$
$$0 = 34.4N + F_N - 98N$$
$$F_N = 63.6N$$

$$\Sigma F_x = F_x - F_{Fr}$$
$$= 49.1N - \mu F_N$$
$$= 49.1N - (0.3)(63.6N)$$
$$\Sigma F_x = 29.9N$$

F_N
F_{Fr}
$F_y = \sin 35°(60N) = 34.4N$
60N
$35°$
F_y
10kg
$F_x = \cos 35°(60N) = 49.1N$
μ=0.3
W=98N

$$\Sigma F_x = m a_x$$
$$29.9N = 10kg (a_x)$$
$$a_x = 2.99 \, m/s^2$$

4. Find the acceleration of the 8kg mass.
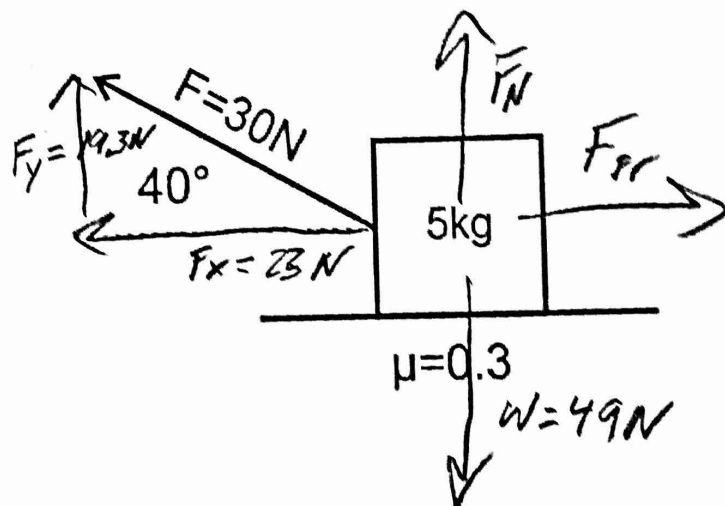
$$\Sigma F_y = F_y + F_N - W = 0$$
$$= 19.3N + F_N - 49N = 0$$
$$F_N = 29.7N$$

$$\Sigma F_x = F_{Fr} - F_x$$
$$= \mu F_N - F_x$$
$$= 0.3(29.7N) - 23N$$
$$= -14.1N$$

F=30N
$F_y = 19.3N$
40°
F_N
F_{Fr}
5kg
$F_x = 23 N$
μ=0.3
W=49N

$$\Sigma F_x = m a_x$$
$$-14.1N = 5kg (a_x)$$
$$a_x = -2.82 \, m/s^2$$