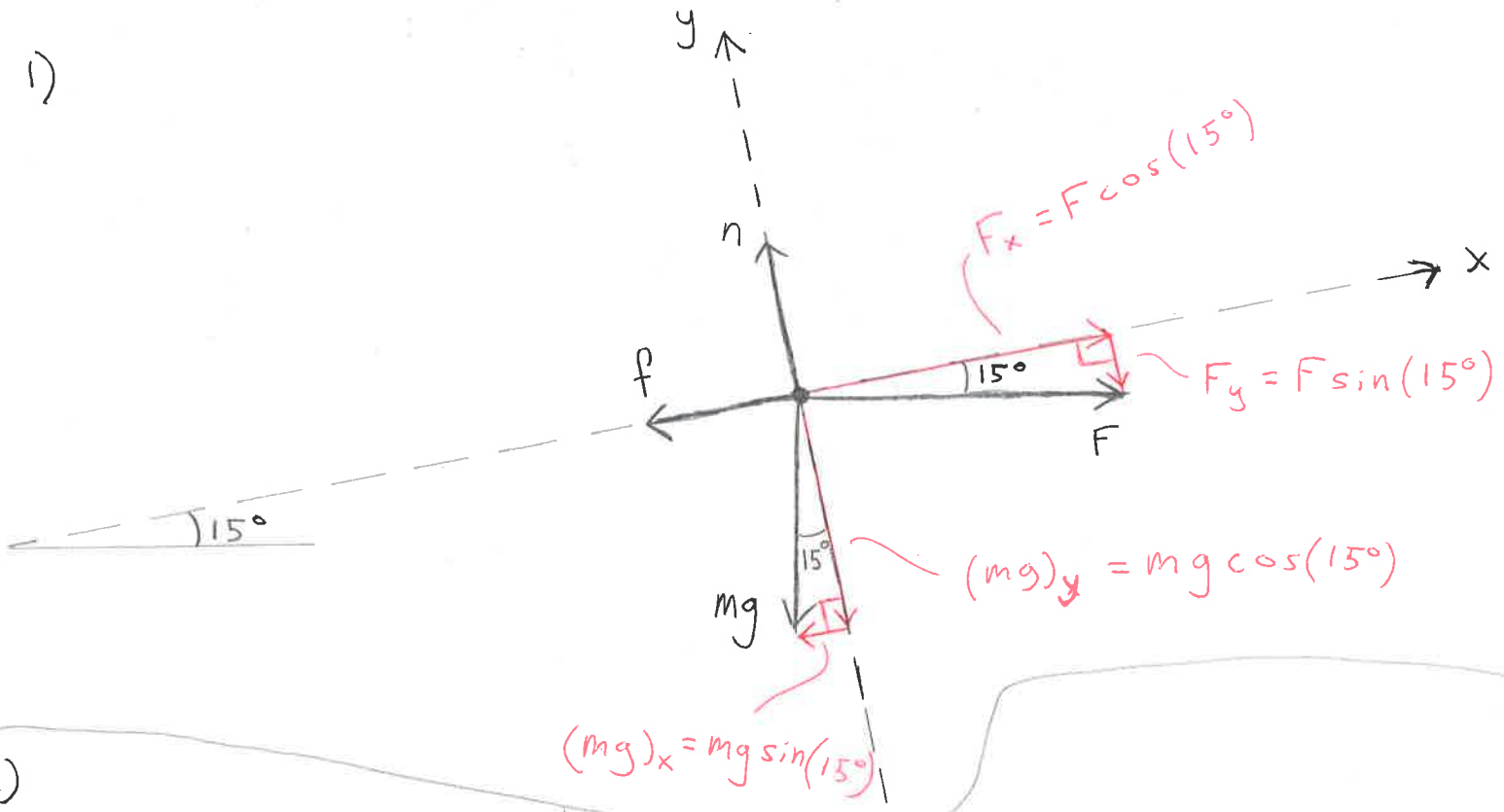
1)



2)

$F = 26$ N

$F_x = 25.11$ N

$F_y = 6.73$ N

$mg = 29.4$ N

$(mg)_x = 7.61$ N

$(mg)_y = 28.4$ N

$n = (mg)_y + F_y = 35.13$ N

$f = \mu_k n = 5.27$ N

3) $a_x = \frac{\sum F_x}{m} = (25.11 - 7.61 - 5.27)/3$

$= 4.08$ m/s²

4) $V_f = V_i + at \Rightarrow V_f = 10.2$ m/s

$x_f = x_i + V_i t + \frac{1}{2}at^2 \Rightarrow x_f = 12.75$ m

5) $W_{normal} = 0$

$W_F = (25.11)(12.75) = 320.15$ J

$W_{gravity} = -(7.61)(12.75) = -97.03$ J

$W_f = -(5.27)(12.75) = -67.19$ J

$W_{total} = 155.93$ J

6) $\Delta KE = KE_f - KE_i$

$= \frac{1}{2}MV_f^2$

$= \frac{1}{2}(3)(10.2)^2$

$= 156.0$ J

same (close enough w/ rounding)