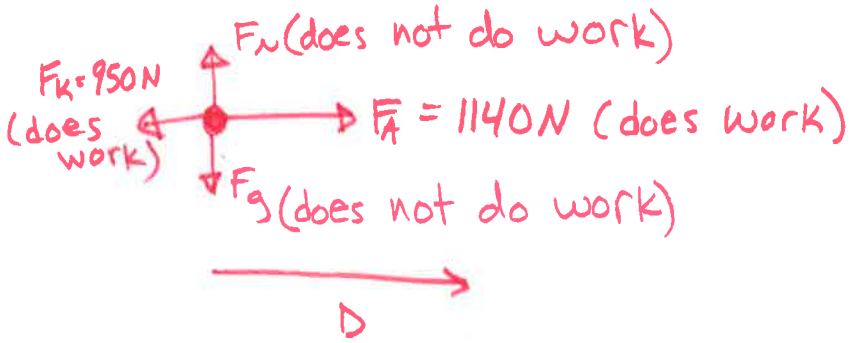
Hints

① $W = K_f - K_i$ "from rest" $\Rightarrow$ _____ $= 0$

$F \cdot D = K_f - K_i$

② $W = K_f - K_i$

$W_1 + W_2 = K_f - K_i$



③

Below water

$W = K_f - K_i$

two forces do work

$= 0J$

Solve for K_i

Above Water

$W = K_f - K_i$

only F_g does work

$= 0J$

plug in here

$W_{nc} = \Delta K + \Delta U$

Disregard this

$K_1 + U_1 + W_{nc} = K_2 + U_2$