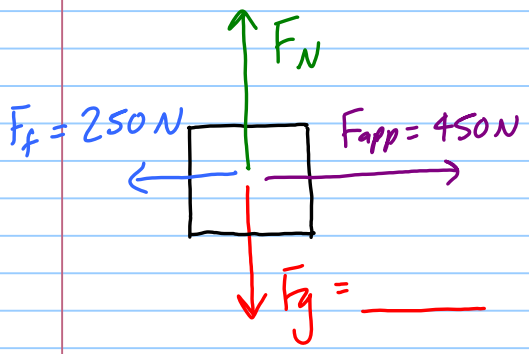
Quiz 3b

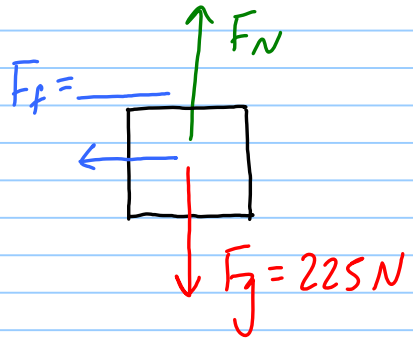
Note Title 27/09/2012

For each of the situations shown below, determine the missing information.



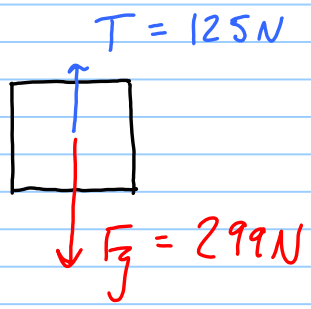
$m = 25\,kg$

$a =$ ____



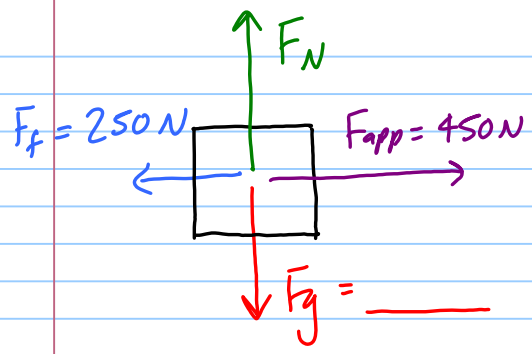
$m =$ ____

$a = -3.27\,m/s^2$



$m = 30.5\,kg$

$a =$ ____



$m = 25\,kg$

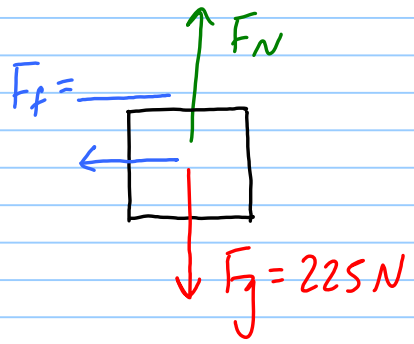
$a =$ ____

$F_g = mg = (25\,kg)(9.8) = \boxed{250\,N}$ ✓

$F_{net} = F_{app} - F_f = ma$

$a = \frac{F_{app} - F_f}{m} = \frac{(450 - 250)\,N}{25\,kg}$

$= \boxed{4.0\,m/s^2}$ ✓



$m =$ ____

$a = -3.27\,m/s^2$

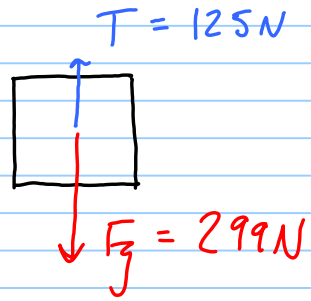
$F_g = mg \quad m = \frac{F_g}{g} = \frac{225\,N}{9.8\,m/s^2} = 22.96$

$= \boxed{23.0\,kg}$ ✓

$F_{net} = -F_f = ma \qquad F_f = -ma$

$F_f = -(-22.96\,kg)(-3.27\,m/s^2)$

$= \boxed{75.1\,N}$ ✓



$m = 30.5\,kg$

$a =$ ____

$F_{net} = T - F_g = ma$

$a = \frac{T - F_g}{m} = \frac{(125 - 299)\,N}{30.5\,kg}$

$= \boxed{-5.70\,m/s^2}$ ✓