

SM: 1: $R_{rf} = 3\%$ $EMRP = 8\%$

$r_D = 3\% + .5(8\%) = 7\%$

$r_S = 3\% + 1(8\%) = 11\%$

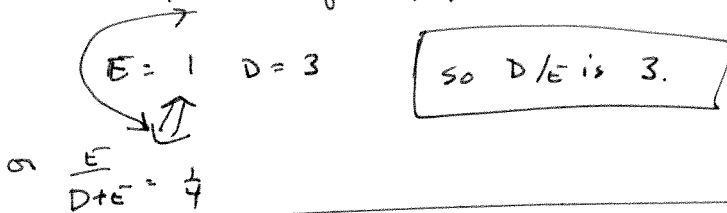
$\frac{1}{T}$ or $\frac{1}{T-1}$
issue.
Do β
What does R_{wacc} mean

$r_{wacc} = X(11\%) + (1-X)(7\%)$

X is fraction of capex fin. through equity

want $8\% > r_{wacc}$; $8\% = 11X + 7 - 7X \Rightarrow 1 = 4X \Rightarrow X = 1/4$

So if $1/4$ or 25% of capex is Equity...



2: a: Francisco 80% X 20% Y

(Say Zynga 60% X 40% Y) (But will make clear) (Not my exam...)

State 1 $R_F : .8(21) + .2(-9) = 15\%$

State 1 $R_B : .6(21) + .4(-9) = 9\%$

State 2 $R_F : .9(33) + .1(82) = 42.8\%$

State 2 $R_B : .6(33) + .4(82) = 52.6\%$

$E_F = \frac{1}{2}(15) + \frac{1}{2}(42.8) = 28.9$

$E_B = 30.8$

$\sigma_F^2 = \frac{1}{2}(28.9 - 15)^2 + \frac{1}{2}(42.8 - 28.9)^2$
 $= 193.21$

$\sigma_F = 13.9\%$

$\sigma_B = 21.9\%$

b). $\beta_F = \frac{\sigma_{MF}}{\sigma_M^2} = \frac{\frac{1}{2}(-28.9+15)(11-29.5) + \frac{1}{2}(42.8-28.9)(48-29.5)}{(18.5)^2} = \frac{257.65}{342.25} = .75$

(seems to make sense ... +, but not as much warrant as warrant.)