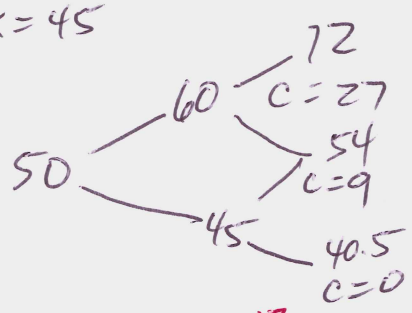
Fall 2012: Final A for 4.00 class

P5 $0-20: r^* = 1 - \frac{(1-.35)(1-.2)}{(1-.4)} = +0.1333$ (+12, +8, +4)

$20-40: r^* = 1 - \frac{(1-.7(.35))(1-.2)}{(1-.4)} = -0.0067$ (+12, +4, +12, +4)

$\Rightarrow$ optimal interest = \$20 million +15 (+4)

P6 $K = 45$



$S=60: \Delta = \frac{27-9}{72-54} = +1$ (+2, +2, +2)

$B = \frac{9 - 1(54)}{1.02} = -44.1176$ (+2, +2, +2, +2)

$C = 60(1) - 44.1176 = 15.8824$ (+2, +2, +2)

$S=45: \Delta = \frac{9-0}{54-40.5} = 0.6666$ (+2, +2, +2)

$B = \frac{0 - .6666(40.5)}{1.02} = -26.4706$ (+2, +2, +2, +2)

$C = 45(.6666) - 26.4706 = +3.5294$ (+2, +2, +2)

$t=0: \Delta = \frac{15.8824 - 3.5294}{60 - 45} = +0.8235$ (+2, +2, +2)

$B = \frac{3.5294 - 0.8235(45)}{1.02} = -32.8722$ (+2, +2, +2, +2)

$C = 0.8235(50) - 32.8722 = 8.3028$ (+2, +2, +2)