

Extra Credit - (Exam 1)

6. You have \$5500 in a retirement fund and want a return of 5%.

1. Re-write the question

→ Option 1: 5 year CDs w/annual return of 3.05%

→ Option 2: Index funds w/annual return of 8.2%

Q: How much do you put in both for a return of 5% annually for 5 years?

2. Find out how much you need annually

5500

$\frac{.05}{275.00}$  } How much you want annually

ignore

$\frac{5}{1375}$  } How much in interest over 5 years

+ 5500 } total desired amount

Goal: make 1375 out of 5500 over 5 years  
 (275/yr) → 6875 total  
 = [ \$ from CD ] + [ \$ from index ] = 275 } in interest

3. Identify variables

c = money to CD → .0305c }  
 i = money to IF → .082i } .0305c + .082i = 275  
 c + i = 5,500

4. Identify equations

(Don't have more than 5500 to invest)

5. Solve for variables

$c + i = 5500$   
 $-i$  }  
 $c = 5500 - i$   
 $.0305(5500 - i) + .082i = 275$   
 $167.75 - .0305i + .082i = 275$   
 $167.75 + 0.0515i = 275$

$c = 5500 - i$   
 $= 5500 - 2082.52$   
 $= 3,417.48$

$i = 2082.52$  \*

C = 3417.48