

Stations

Name: 4C M105 Review

1) NEW IRA $r = .051$ $n = 12$
 Contribute \$150 per month $t = 15$
 How much at the end of 15 years

$$A = 150 \left[\frac{(1 + \frac{.051}{12})^{12 \cdot 15} - 1}{\frac{.051}{12}} \right]$$

$$A = \frac{150 \left(1.00425^{180} - 1 \right)}{.00425}$$

2 $A = \frac{150(1.1455)}{.00425}$ $150 \cdot 180 = 27,000$

$$A = 40,429.89$$

The IRA will have \$40,429.89 of that amount you deposited \$27,000 so you earned \$13,429.89 in interest in 15 years.

3 $75 = PMT$ $r = .07$ $t = 10$
 $n = 12$

$$A = 75 \left[\frac{(1 + \frac{.07}{12})^{12 \cdot 10} - 1}{\frac{.07}{12}} \right]$$

$$A = \frac{75 \left[1.00583^{120} - 1 \right]}{.00583}$$

4 $A = \frac{75(1.00966)}{.00583}$ Your deposits

$$A = \$12981.36$$

You will have \$12981.36 in the account after 10 years you deposited \$9000 so you earned \$3981.36 in interest

$$75 \cdot 10 \cdot 12 = \$9000$$

5 Want \$150,000 = A $t = 15$
 $r = .043$ $n = 12$ How much should you deposit = PMT ???

$$150,000 = PMT \left[\frac{(1 + \frac{.043}{12})^{12 \cdot 15} - 1}{\frac{.043}{12}} \right]$$

Solve for PMT

$$150,000 = PMT \frac{(1.003583^{180} - 1)}{.0035833}$$

6 $150,000 = PMT \frac{(.90379)}{.0035833}$ $.0035833$

Now Mult both sides by .0035833

$$537.50 = PMT (.90379)$$

$$PMT = \$594.72$$

You would need to deposit \$594.72 every month for 15 years to get 150,000

7 18 Months to Save \$2900
 $r = .023$ $n = 12$ How much should you deposit = PMT ???

$$2900 = PMT \left[\frac{(1 + \frac{.023}{12})^{12 \cdot 1.5} - 1}{\frac{.023}{12}} \right]$$

$t = 1.5$ years

$$2900 = PMT \frac{(1.00191^{18} - 1)}{.0019166}$$

8 $2900 = PMT \frac{(.03506)}{.0019166}$

$$5.558 = PMT (.03506)$$

$158.50 = PMT$
 You would need to save \$158.50 per month to have \$2900 for vacation in 18 months

★ Stations ★

Name: _____

A Retire at 55 years you are 25 Now you want \$52,000 per year forever
 $r = .043$ $t = 30$ years **A** = find total balance
 Live on Interest so 4.3% of total Balance = 52000
 $.043 \cdot A = 52000$
 $A = 1209302.33$
 You will need a total of $A = 1,209,302.33$ to be able to live off interest only

B find PMT a Month
 $1209302.33 = PMT \left[\frac{1 - (1 + \frac{.043}{12})^{-360}}{\frac{.043}{12}} \right]$
 Mult both sides by $\frac{.043}{12}$
 $4333.33 = PMT (2.6244)$
 $\$1651.16 = PMT$
 You would need to Invest \$1651.16 a Month to make the \$52,000 a year for life a reality.

C after 4 years paying \$3500 risky stocks you sell shares at \$5000 Find the total Annual return (nearest percent) of your investment
 2 different problems
 Total Return = $\frac{A - P}{P} \cdot 100\%$
 $P = 3500$ $A = 5000$
 total Return = $\frac{5000 - 3500}{3500} = .4285 = 43\%$

D Annual return = $\left(\frac{A}{P} \right)^{\frac{1}{t}} - 1$
 Annual = $\left(\frac{5000}{3500} \right)^{\frac{1}{4}} - 1$
 Annual R = $.093 = 9.3\% = 9\%$
 Your investment after 4 years is 43% of 3500 more.
 Your annual return is 9% higher
 Investment grow on average 9% each year

E Johnson & Johnson closed at \$145.76 P/E ratio of 25.33 what were the earnings per share for Johnson & Johnson
 Price to Earning ratio $\frac{25.33}{1}$
 earning per share = $\frac{\text{Share price}}{\text{P/E ratio}} = \frac{145.76}{25.33} = 5.75$

F The earnings per share for J & J is \$5.75.

G Calculate the yield on 10,000 bond w/ coupon rate of 8% w/ Market Value of \$9200.
 $r = .08$
 Current yield = $\frac{\text{annual interest payment}}{\text{Current price of bond}}$
 Current price = 9200
 Interest earned = 800

H Current yield = $\frac{800}{9200}$
 Make \$800
 Current yield = $.0869$
 The Current yield is 8.7%.