Seminar

Student’s name

Institution

1. Find the future value and total interest of the annuity.

Future value of an annuity

 Future value =11,665.89

Interest: we must obtain the total payments for the entire 8 years

1200\*8 = 9,600

Interest = Future value – Total payments

=11,665.89 – 9,600

=2,065.89

2. Find the future value of an annuity due with an annual payment of ​$11,000 for three years at 5​% annual interest using the simple interest formula. How much was​ invested? How much interest was​ earned?

 Future Value =36,411.375

Investment for 3 months = Annual payments \* Number of years

 11,000\*3 =33,000

Interest = 36,411.375 – 33,000

=3,411.38

3. June Watson is contributing $2,500 each year to a Roth IRA. The IRA earns 3.8​% per year. How much will she have at the end of 40 years?

 Future Value = 226,659.80

If the first payment was made with the establishment of the Roth IRA, then the amount expected would be

The future value when the period is 40 years and deduct the first year

226,659.80 – 2,500

=224,159.80

The amount expected would be

224,159.80 + 2500\*1.038

=223,754.80

4. Jack Walter recognizes the value of saving part of his income. He has set a goal to have ​$30,000 in cash available for emergencies. How much should he invest semi-annually to have ​$30,000 in five years if the sinking fund he has selected pays 8​% ​annually, compounded​ semi-annually?

In this question, we have to find the annuity value from the expected future value as follows:

Annuity = 30,000/12.0061

The amount is 2,498.73

5. Harry and Lisa Perry have agreed to pay for their​ granddaughter's college education and need to know how much to set aside so annual payments of ​$20,000 can be made for five years at 3​% annual interest.

 = 106,182.72

If the amount is set aside at the beginning of each year, then the value is:

106,182.72\*1.03

= 109,368.20