

Chapter 2
Banking

Section 2-7

Future Value of Investments

Objective:
Calculate

Graph & Interpret

Discover & Calculate

Future value of a periodic deposit investment:

$$B = \frac{P \left(\left(1 + \frac{r}{n} \right)^{nt} - 1 \right)}{\frac{r}{n}}$$

Periodic means

B =
P =
r =
n =
t =

Example 1

Rich and Laura are both 45 years old. They open an account at the Rhinebeck Savings Bank for their retirement in 20 years. They deposit \$5,000 each year into an account that pays 1.25% interest, compounded annually. What is the account balance when Rich and Laura retire?

B =
P =
r =
n =
t =

Example 1 – You Try It!

How much more would Rich and Laura have in their account if they decide to hold off retirement for an extra year?

B =
P =
r =
n =
t =

Future interest of a periodic deposit investment:

$$I = \frac{P \left(\left(1 + \frac{r}{n} \right)^{nt} - 1 \right)}{\frac{r}{n}} - (P \cdot n \cdot t)$$

I =
P =
r =
n =
t =

Example 2

How much interest will Rich and Laura earn over the 20-year period?

Example 2 – You Try It!

Use Example 1 - You Try It information. How much more interest would Rich and Laura earn by retiring after 21 years?

Example 3

Linda and Rob open an online savings account that has a 1% annual interest rate, compounded monthly. If they deposit \$1,200 every month, how much will be in the account after 10 years?

B =

P =

r =

n =

t =

Assignment 2-7

Read Pages 109 to 112

Do Page 113: # 2-5, 8, 9a-f, 11