Applications

Never invest in any idea you can't illustrate with a crayon.
—Peter Lynch, American businessman

1. Read the above quote. Interpret the quote in the context of what you learned about investment diversification in this section.   See margin.

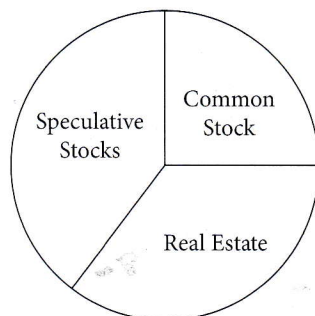2. Rob bought a 1965 Fender Jazzmaster vintage electric guitar in 1980 for a price of $150. In 2017 it was appraised for $4,500. You are going to compare this appraised value to what the $150 would have earned if it was deposited in a certificate of deposit for those 37 years. Interest on all of Rob's CDs is compounded continuously.
   a. If the account paid 12.3% interest for the first 7 years, what would the balance be after the first 7 years? Round to the nearest cent. $354.83
   b. If the account paid 6% interest for the next 10 years, what would the balance be after the first 17 years? Round to the nearest cent. $646.54
   c. If the account paid 4.1% interest for the remaining 20 years, what would the balance be after the 30 years? Round to the nearest cent. $1,467.97
   d. What is the difference between the appraised value of the guitar and the amount the original $150 would have earned in the bank? $3,032.03

3. Jacques is planning to set up a $70,000 investment portfolio. He plans on investing 20% in stock, 20% in bonds, 20% in collectibles, and the remainder into a 10-year certificate of deposit.
   a. How much is invested in the CD? $28,000
   b. If the CD earns 6% interest compounded continuously, how much will it grow to in 10 years? Round to the nearest cent. $51,019.33
   c. The same amount is invested in stocks as in collectibles. If the stocks drop 10%, and the collectibles gain 10% in value, what is the net gain from these two investments? $0

4. In 1974, Robin bought a classic 1955 Ford Thunderbird for $2,000. Over the next 30 years, she invested approximately $1,000 per year into restoring the car to its original condition. In 2004, she sold it for $54,000.
   a. Imagine she chose not to invest in the car. Assume she invested the initial $2,000 in an account that paid an average of 4.11% interest compounded daily. How much would that grow to in the 30 years? Round to the nearest hundred dollars. $6,900
   b. If she deposited $1,000 each year into an account that paid $4.09% compounded annually, how much would be in that account after the 30 years? Round to the nearest hundred dollars. $56,900
   c. If she chose the options in both parts a and b, how much total gain would the accounts make in the 30 years, to the nearest hundred dollars? $31,800
   d. How much did she invest in the Thunderbird? $32,000
   e. How much did she gain on the Thunderbird investment? $22,000
   f. Which investment was more conservative?   The bank accounts

$61,000, which he will receive every year until he dies. However, he has a choice to make. If he agrees to take a 10% reduction in his pension, his wife can continue to receive that annual payment even after his death, until she dies.

a. What is the amount of the reduced annual pension? $54,900
b. If Ronaldo lives 10 years after retirement and receives the full $61,000 per year, how much will he have received in total? $610,000
c. If Ronaldo lives 20 years and takes the reduced pension amount, and his wife lives 11 years past his death, how much will the pension have paid in total? $1,701,900
d. If Ronaldo lives 6 years after retirement and then dies, and he took the reduced pension, how much less did he receive than if he took the full $61,000 amount each year? $36,600
e. For how many years would Ronaldo's wife have to live to collect pension money that was more than the amount Ronaldo sacrificed from part d? See margin.

6. In the 1950s and 1960s, baseball trading cards were sold in packages of five cards with a stick of gum for 5 cents. So each card cost approximately 1 cent. A 1953 Mickey Mantle card can sell for over $1,000 today in good condition. What would 1 cent have grown to in 60 years at 5% interest compounded continuously? About 20 cents

7. The Terceira family is planning to send their 3-year-old daughter to college in 15 years. They plan on investing $5,000 each year to help meet her college costs.
a. What are the advantages and disadvantages of putting the money in a bank? See margin.
b. What are the advantages and disadvantages of investing the money in stock? See margin.

8. List the following investments in order of their liquidity. The most liquid is the easiest to convert to cash, and the least liquid is the toughest to convert to cash. Explain your answer.

Stock, bank account, real estate, collectibles

9. The following circle graphs give the proportional breakdowns of two investors' diversified portfolios.
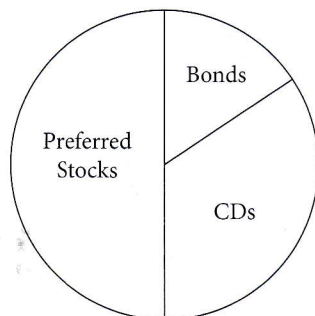
Jillian's Investment Portfolio   Lisa's Investment Portfolio

a. Which investor is more aggressive? Explain. See margin.
b. Which is Jillian's most aggressive investment? Preferred stock
c. Which is Lisa's most aggressive investment? Speculative stock

10. Years ago, Enzo invested $200,000 into stocks, bonds, and real estate. He diversified his investments according to the following percentages:

Stocks: 44%

Bonds: 31%

Real estate: 25%

If the stocks increase 19% in value, the bonds gain 8%, and the real estate loses 5%, what is the total monetary gain or loss from this diversified portfolio? $19,180 gain

ANSWERS

Exercise 5e
At a rate of $4,575 per month, it would take her 8 months to make back the difference.

Exercise 7a
The money is insured, but the interest is not a large amount.

Exercise 7b
There is a potential for great reward, but the money is not insured, so there is a great risk.

Exercise 8
The bank account is the most liquid, followed by the stock, which can be sold through a broker quickly. If the collectible is too high-priced or not desirable, it could take longer to sell than real estate. However, an undesirable or overpriced piece of real estate could also take a long while to sell.

Exercise 9
Lisa is more aggressive—she has no guaranteed, safe, low-risk, conservative investments. Jillian has insured money in a bank, and bonds, which are also conservative.