Handout B-Lynne

Answer key-Option #3

Step 1: Calcuate the amount of the annual contribution that will be allocated to each investment type to use in Step 2 below for (B). Also calculate the year 1 starting balance in each investment type to use in Step 2 below for (A).

Bonds & Mutual Funds (containing primarily bonds):
Annual Contribution: $4,000*.25= $1,000 @ 4% return
Year 1 Begininning Balance: $200,000*.25= $50,000

Stocks & Mutual Funds (containing primarily stocks):
Annual Contribution: $4,000*.40=$1,600 @ 8% return
Year 1 Begininning Balance: $200,000*.4= $80,000

Certificates of Deposit:
Annual Contribution: $4,000*.10= $400 @ 2% return
Year 1 Begininning Balance: $200,000*.1= $20,000

Savings Account:
Annual Contribution: $4,000*.25= $1,000 @ 1% return
Year 1 Begininning Balance: $200,000*.25= $50,000

Step 2: Calculate the interest earned and investment growth by investment type for the three years.

Bonds & Mutual Funds (containing primarily bonds):

	Beginning Balance (A)	Annual Contribution (B)	Investment Growth (C) =(A+B)*Growth Rate	Ending Balance (A+B+C)
Year 1	50,000	1,000	(50,000+1,000)*.04= 2,040	50,000+1,000+2,040=53,040
Year 2	53,040	1,000	(53,040+1,000)*.04= 2,161.60	53,040+1,000+2,161.60= 56,201.60
Year 3	56,201.60	1,000	(56,201.60+1,000)*.04= 2,288.06	56,201.60+1,000+2,288.06= 59,489.66

Stocks & Mutual Funds (containing primarily stocks)

	Beginning Balance (A)	Annual Contribution (B)	Investment Growth (C) =(A+B)*Growth Rate	Ending Balance (A+B+C)
Year 1	80,000	1,600	(80,000+1,600)*.08=6,528	80,000+1,600+6,528=88,128
Year 2	88,128	1,600	(88,128+1,600)*.08= 7,178.24	88,128+1,600+7,178.24= 96,906.24
Year 3	96,906.24	1,600	(96,906.24+1,600)*.08= 7,880.50	96,906.24+1,600+7,880.50= 106,386.74

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Certificates of Deposit

	Beginning Balance (A)	Annual Contribution (B)	Investment Growth (C) =(A+B)*Growth Rate	Ending Balance (A+B+C)
Year 1	20,000	400	(20,000+400)*.02=408	20,000+400+408 =20,808
Year 2	20,808	400	(20,808+400)*.02=424.16	20,808+400+424.16=21,632.16
Year 3	21,632.16	400	(21,632.16+400)*.02= 440.64	21,632.16+400+440.64= 22,472.80

Savings Account

	Beginning Balance (A)	Annual Contribution (B)	Investment Growth (C) =(A+B)*Growth Rate	Ending Balance (A+B+C)
Year 1	50,000	1,000	(50,000+1,000)*.01=510	50,000+1,000+510=51,510
Year 2	51,510	1,000	(51,510+1,000)*.01= 525.10	51,510+1,000+525.10= 53,035.10
Year 3	53,035.10	1,000	(53,035.10+1,000)*.01= 540.35	53,035.10+1,000+540.35= 54,575.45

Step 3: Sum the balances of all investment types to determine portfolio value after three years.

Investment Type:	Year 3 Ending Balance:
Bonds & Mutual Funds (containing primarily bonds):	59,489.66
Stocks & Mutual Funds (containing primarily stocks):	106,386.74
Certificates of Deposit:	22,472.80
Savings Account:	54,575.45
Total:	$242,924.65

Step 4: Calculate the total approximate percentage growth of the investment portfolio over the three years:

Principal= $212,000 Investment interest/gains=$30,924.65
$30,924.65/$212,000= 14.59%

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