Handout B-Patrick

Answer key-Option #2

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).

Bonds & Mutual Funds (containing primarily bonds):
$6,000*.15= $900 @ 4% return

Stocks & Mutual Funds (containing primarily stocks):
$6,000*.75=$4,500 @ 8% return

Certificates of Deposit:
$6,000*.05= $300 @ 2% return

Savings Account:
$6,000*.05= $300 @ 1% return

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	0	900	(0+900)*.04= 36	0+900+36= 936
Year 2	936	900	(936+900)*.04= 73.44	936+900+73.44= 1,909.44
Year 3	1,909.44	900	(1,909.44+900)*.04= 112.38	1,909.44+900+112.38=2,921.82

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	0	4,500	(0+4,500)*.08=360	0+4,500+360= 4,860
Year 2	4,860	4,500	(4,860+4,500)*.08=748.80	4,860+4,500+748.80= 10,108.80
Year 3	10,108.80	4,500	(10,108.8+4,500)*.08= 1,168.70	10,108.8+4,500+1,168.70= 15,777.50

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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	0	300	(0+300)*.02= 6	0+300+6=306
Year 2	306	300	(306+300)*.02= 12.12	306+300+12.12= 618.12
Year 3	618.12	300	(618.12+300)*.02= 18.36	618.12+300+18.36= 936.48

Savings Account

	Beginning Balance (A)	Annual Contribution (B)	Investment Growth (C) =(A+B)*Growth Rate	Ending Balance (A+B+C)
Year 1	0	300	(0+300)*.01= 3	0+300+3=303
Year 2	303	300	(303+300)*.01= 6.03	303+300+6.03=609.03
Year 3	618.12	300	(609.03+300)*.01= 9.09	609.03+300+9.09=918.12

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):	2,921.82
Stocks & Mutual Funds (containing primarily stocks):	15,777.50
Certificates of Deposit:	936.48
Savings Account:	918.12
Total:	$20,553.92

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

Principal= $18,000 Investment interest/gains=$2,553.92
$2,553.92/$18,000= 14.19%

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