SOLUTIONS...

1)

Paula's Investment:
5600 + 10(500) + (200)(12)(10)
=34600
Paula invested $34600

Jonathan's Investment:
2000 + (55)(52)(10) + 4000
=34600
Jonathan invested $34600

Paula and Jonathan will invest the same amount over the ten years.

2)

Use the financial application on your graphing calculator:

For single-payment investments, enter: Term in years, Present value, Annual interest rate, Compounding frequency

For regular-payment investments, enter: Number of payments, Regular payment amount, Payment frequency, Payments at Beginning or End of compounding period, Annual interest rate, Compounding frequency

Future Value (Paula)

TFSA	= $6976.62
CSBs	= $5892.88
Savings Account	= $26 007.87
Portfolio total	= $38 877.37

Total future value = $38 877.37

Future Value (Jonathan)

GIC	= $3030.71
Savings Account	= $31 329.72
Bond (reinvested at 5 yrs*)	= $5955.45
Portfolio total	= $40 315.88

Total future value = $40 315.88

* Jonathan's bond has a future value of $4856.65 after five years, which he reinvests for another five years at 4.1%.

3)

Subtract the amount invested from the future value, then divide by the amount invested.

Rate of Return (Paula)

$$= \frac{38877.37 - 34600}{34600}$$

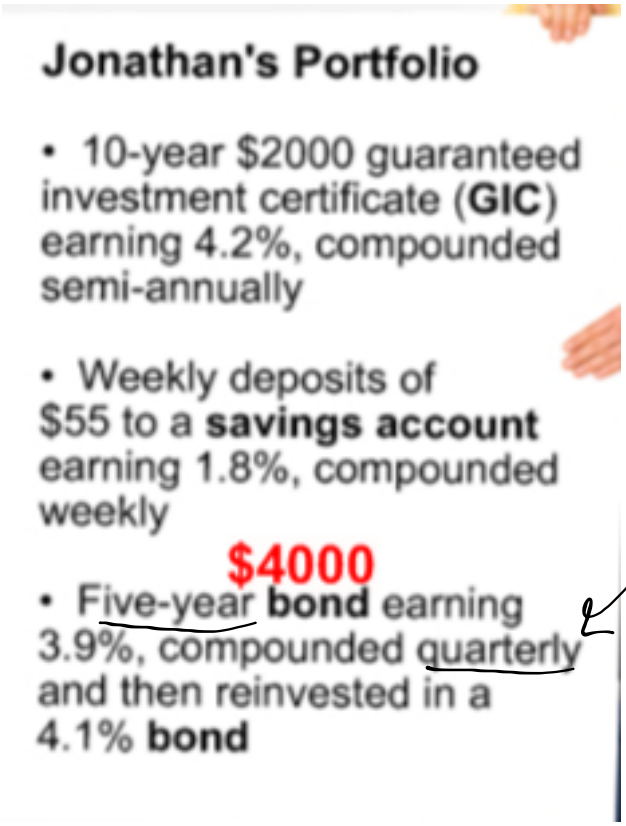
$= 0.123$

Rate of Return (Jonathan)

$$= \frac{40315.88 - 34600}{34600}$$

$= 0.165$

Jonathan's portfolio will have a rate of return of about 17%. This is about 5% higher than the rate of return from Paula's portfolio, which will be about 12%.



$A = 4000(1+\frac{0.039}{4})^{20}$

$A = 4856.65$

end of 5 yrs

reinvest

$A = 4856.65(1+\frac{0.041}{4})^{20}$

$= 5955.44$

Portfolio

HOMEWORK...

Quiz on *Thursday...

PRACTICE QUESTIONS...

p. 509:

Formulas...#1, 2a, 3, 4, 6, 7a

TVM-Solver...#8, 9, 10

p. 506: Self Test

p. 483: Mid-Chp Review

- **Simple Interest**

$$I = \Pr t \qquad A = P + \Pr t$$
$$A = P + I \qquad A = P(1 + rt)$$

- **Compound Interest**

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

- **Rate of Return**

$$ROR = \frac{earn}{invested} \times 100\%$$

- **Rule of 72**

$$doubling\ time = \frac{72}{rate}$$

- **Present Value**

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

- **Regular Payments (TVM-Solver)**