

# STATION F (By hand)

1. Complete the table.

Annual Interest Rate (%)	Number of Years	Compounding Period (in words)	$n$	$i$ (approx. to 4 decimal places)
4.0%	7	monthly		
	18		72	0.0035
8.5%		semi-monthly	36	

2. Elizabeth borrows \$2800 for 12 years at a fixed rate of simple interest. At the end of that time, she owes \$8000. What interest rate is she being charged?
3. Given the TVM solver screen below, describe a scenario (point form) that applies to the values.

N=60 I%=6.4 PV= - 1500 • PMT= - 45.15 FV= 20000 P/Y=2 C/Y=2 PMT: END
---

# STATION I (By hand)

1. Tom wants to invest money every month for 30 years at 12.8%/a compounded monthly. He would like to have \$ 100 000 000 at the end of the 30 years. How much does he need to invest each month?
2. Karsh has \$5000 to invest now. He is hoping to find an investment that would allow him to have \$16 000 in 10 years. At what annual rate, compounded semi-annually, will he need to invest at in order to achieve his goal?
3. Ahmed wants to invest some money at 10.5%/a compounded annually. He would like the investment to provide \$1000 for scholarships at his old high school, WCSS, at the end of each year, for the next 25 years. How much would Ahmed need to invest now?

# STATION N<sub>1</sub> (By hand)

Kelsey invests \$1800 into an account paying 5.3%/a compounded bi-weekly for 2 years. At the end of two years, she will re-invest her money, plus an additional amount, into a second investment that pays 8.2%/a compounded monthly for 4 more years. If she wants to have \$9500 at the end of the 6 years of investing, how much will she need to add to her investment at the end of 2 years?

# STATION A (Graphing Calc)

1. Complete the table for annuities.

Payment (\$)	Annual Interest Rate	Number of Years	Total Number of Payments	Compounding Period	Total Amount (\$)
100	3.5%	8		monthly	
	5.2%	6	156		2400

2. Lauryn borrows \$10 000 as start-up capital for her new business. She plans to repay the loan in 4 years, at which point she will owe \$15 185. What rate of interest is Lauryn being charged, assuming that it is compounded semi-annually?

# STATION N<sub>2</sub> (Graphing Calc)

1. Musa has saved \$6500 by working part-time. He is going to invest his money in an account paying 6%/a compounded daily. How long will it take for his money to double?
2. Jordyn has won the CASH for LIFE lottery and will receive \$1000 every week for the next 30 years. How much does the Ontario Lottery Corporation need to invest today at 9.8%/a compounded weekly to pay for this prize?
3. At the end of every month, Malcolm deposits \$100 in an account that pays 6.3%/a, compounded monthly. Determine the amount in the account after 4 years.

# STATION C (Graphing Calc)

1. Bryn borrows \$150 000 to start up a company. He can afford to make monthly payments between \$1500 and \$2000 at 3.8%/a compounded monthly. How much sooner, in months, can he pay off the loan if he makes the maximum payment?

2. Yasmeen buys a house for \$350 000. She has a down payment of \$50 000.

a) Determine Yasmeen's regular monthly payments if her mortgage is amortized over 25 years at 4.2%/a.

b) Assuming her rate stays the same and she continues to make monthly payments, how much interest will Yasmeen pay on her mortgage?

# STATION E (Graphing Calc)

Paige took out a \$480 000 mortgage at 5.4%/a for a fixed 3-year term amortized over 25 years. After the 3 years were up, she shopped around at various banks and found a lower interest rate of 3.4%/a and renewed her mortgage for a fixed 5-year term. She decided to continue making the same monthly payment as before.

Eight years after buying her new house, Paige gets a promotion. With her bonus and raise, she can now afford to pay off part of her mortgage with a lump sum of \$4000 and adds \$200 to her regular payments. By how much has Paige shortened her amortization period?