

**Example 4**

You will need \$3500 for tuition and books two years from now, when you start your college program. You decide to make monthly payments into an account that pays 3.85% interest compounded monthly. Determine the monthly payment you must make in order to achieve your financial goal.

$$\begin{array}{l}
 N = 2 \times 12 \\
 I\% = 3.85 \\
 PV = 0 \\
 \bullet PMT = -140.52 \\
 FV = 3500 \\
 P/Y = 12 \\
 C/Y = 12 \\
 PMT: [ ] [ ] [ ] [ ] BEGIN
 \end{array}$$

$$\begin{array}{l}
 N = \text{number of payments periods} \\
 = 2 \text{ years} \times 12 \text{ months} = 24 \\
 =
 \end{array}$$

$$\text{monthly payments} = \$140.52$$

**Example 5**

Tamsin contributes \$100 per month to an RRSP that earns 7.5% interest compounded semi-annually. Determine the value of Tamsin's RRSP after 3 years.

$$\begin{array}{l}
 N = 3 \times 12 \\
 I\% = 7.5 \\
 PV = 0 \\
 PMT = -100 \\
 \bullet FV = 4016.21 \\
 P/Y = 12 \\
 C/Y = 2 \\
 PMT: [ ] [ ] [ ] [ ] BEGIN
 \end{array}$$

$$\begin{array}{l}
 \text{PMT} \quad I \quad 2 \quad C/Y \\
 \text{Find } \underline{\underline{FV}} \text{ Future value}
 \end{array}$$

$$\text{Future Value} = \$4016.26$$

**Example 6 - \*Investment that has both PV and Payment – watch your +/- signs!**

You have just won \$10 000 on a lottery ticket. You decide to invest it in a GIC that pays 3.5% interest, compounded weekly. You have also decided to contribute \$25 a week to the same GIC.

- Determine the value of the investment after 5 years.
- Determine the amount of interest earned over the life of the investment.

$$\begin{array}{l}
 N = 5 \times 52 \\
 I\% = 3.5 \\
 PV = -10000 \\
 PMT = -25 \\
 \bullet FV = 19012.59 \\
 P/Y = 52 \\
 C/Y = 52 \\
 PMT: [ ] [ ] [ ] [ ] BEGIN
 \end{array}$$

$$\begin{array}{l}
 \text{TOTAL INVESTED AFTER 5 YEARS} = 10000 + (25 \times 52 \times 5) \\
 = 10000 + 6500 \\
 = 16500
 \end{array}$$

$$\begin{array}{l}
 \text{Interest EARNED} = 19012.59 - 16500 \\
 = \$2512.59
 \end{array}$$