

Compound Interest and the TVM Solver – Assignment

1. Use the TVM Solver to calculate the amount (Future Value) of the following investments:

- a) \$1000 invested at 6% per annum compounded semi-annually for 5 years.
- b) \$800 invested at 4.8% per annum compounded semi-annually for 3 years.
- c) \$600 invested at 8% per annum compounded quarterly for 3 years.
- d) \$1200 invested at 6.8% per annum compounded quarterly for 10 years.
- e) \$2500 invested at 12% per annum compounded monthly for 4 years.
- f) \$10 000 invested at 5.4% per annum compounded monthly for 8 years.

a) N = FV = I = PY = PV = CY = PMT = BEGIN	b) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

c) N = FV = I = PY = PV = CY = PMT = BEGIN	d) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

e) N = FV = I = PY = PV = CY = PMT = BEGIN	f) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

2. Use the TVM Solver to determine the following times. Answer in years.

- a) How long will it take an investment of \$1 000 to reach \$1 200 at 6.5% p.a. compounded monthly?
- b) How long will it take for an investment of \$5 000 at 5.6% p.a. compounded quarterly to double in value?
- c) How long will it take for an investment of \$10 000 at 9.5% p.a. compounded semi-annually to triple in value?
- d) How long will it take for an investment of \$3 000 at 8.2% p.a. compounded annually to reach \$5000?

a) N = FV = I = PY = PV = CY = PMT = BEGIN	b) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

c) N = FV = I = PY = PV = CY = PMT = BEGIN	d) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

3. Use the TVM Solver to determine the original amount (Present Value) invested.

- a) How much must be invested at 3.5% p.a. compounded semi-annually in order to have \$5000 after 8 years?
- b) How much must be invested at 4.1% p.a. compounded bi-weekly in order to have \$2000 after 3 years?

a) N = FV = I = PY = PV = CY = PMT = BEGIN	b) N = FV = I = PY = PV = CY = PMT = BEGIN
---	---

Answers: 1. a) \$1343.92 b) \$922.34 c) \$760.95 d) \$2355.15 e) \$4030.57 f) \$15388.43
 2. a) 2.8 yrs b) 12.46 yrs c) 11.84 yrs d) 6.48 yrs
 3. a) \$3788.08 b) 1768.70