Math 12 Applications

Name: _____

Block: _____

TVM Solver Part 2

1. Use the TVM Solver to determine the following times: (Answer in years)

a) How long will it take an investment of $100 paid each month to reach $5000 at 6.5% p.a. compounded monthly?
b) How long will it take an investment of $35 paid each month at 6.5% p.a. compounded monthly to reach $5000.
c) How long will it take an investment of $500 paid each month at 6 % p.a. compounded monthly to reach $1 000 000?

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

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

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

2. Use the TVM Solver to find the future value for the following:

a) A bank offers an interest rate of 10% p.a. compounded semi-annually. How much will you have if you invest $2400 at the end of each year for three years?
b) A bank offers an interest rate of 5.7% p.a. compounded quarterly. How much will you have if you invest $500 invested at the start of each quarter for two years?
c) A bank offers an interest rate of 6.8% p.a. compounded semi-annually. How much will you have if you invest$ 100 every month for ten years?
d) How much will you have if you invest $200 every month at an interest rate of 8% p.a. compounded monthly for 20 years?

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

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

d)
N =
I =
PV =
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CY =
BEGIN

3. Use the TVM Solver to determine:

a) When you are born, your parents invest $50 a month at 6.8% p.a. compounded monthly in a non-taxable Registered Education Savings Plan for your college education. How much will be accumulated by the time you reach 18?
b) When you are born, your parents invest $2 a day in an RRSP at 8% p.a. compounded daily for you. How old will you be when you have $10 000?

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

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

4. Use the TVM solver to determine:

a) How much you would need to pay at the end of each month @ 7% p.a. compounded semi-annually to save $10 000 in 10 years?
b) How much you would need to pay at the start of each month @ 8% p.a. compounded annually to save $5 000 in 5 years?
c) How much you would need to pay at the beginning of each month @ 9% p.a. compounded monthly to save $10 000 in 6 years?
d) How much you would need to pay at the end of each year @ 7.5% p.a. compounded semi-annually to save $10 000 in 4 years?

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

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

5. Use the TVM Solver to determine the final amount and interest.

a) An investment of $300 paid each month @ 5% p.a. compounded semi-annually for 3 years
b) An investment of $100 paid each month @ 7.5% p.a. compounded quarterly for 5 years
c) An investment of $250 paid each month @ 8% p.a. compounded monthly for 2 years
d) An investment of $200 paid quarterly @ 6% p.a. compounded semi-annually for 3 years
e) An investment of $200 paid each month @ 4.5% p.a. compounded semi-annually for 2 years
f) An investment of $300 paid semi-annually @ 7.6% p.a. compounded semi-annually for 6 years

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

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

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

Answers: 1. a) 3.68 years b) 8.80 years c) 40 yrs
2. a) $8779.44 b) $4265.21 c) $17126.07 d) $118589.44
3. a) $21199.17 b) 9 yrs, 3 months
4. a) $57.76 b) $68.11 c) $104.47 d) $2072.67
5. a) $11 665.03, $856.03 b) $7288.97, $1288.97 c) $6526.52, $526.52 d) $2645.44, $245.44
e) $5029.40, $229.40 f) $4625.71, $1025.71