Date _____

Tech Tip: Using the TVM Solver

Since these calculations involve money, turn on the graphing calculator and press **MODE, ↓→→→, ENTER** to set all calculations to 2 decimal places.

Press **APPS, ENTER, ENTER** to access the TVM solver.

```
N=0.00
I%=0.00
PV=0.00
PMT=0.00
FV=0.00
P/Y=1.00
C/Y=1.00
PMT:END BEGIN
```

Example 1:
Esteban and Suzanne want to take their sons on a vacation to Florida in 1 year. They estimate the trip will cost $2500. They have an account that pays 3% interest per year, compounded monthly. Determine the amount they will need to deposit into the account at the end of each month to reach their goal.

- N is the number of payments, so N = _____.
- I% is the interest rate in percent, so I% = _____.
- PV is the Present Value (or the amount today), so PV = _____.
- PMT stands for Payment. PMT is the number we want to calculate, so for now, let PMT = 0.
- FV is the _____, so FV = _____.
- P/Y is for payments per year, so P/Y = _____.
- C/Y is the number of times the interest is compounded in 1 year, so C/Y = _____.
- The last line deals with when payments are made, so END needs to be highlighted. For all problems in this unit, payment will be made at the end of the pay period.

After you set all of the variables, the calculator does the work. Scroll up to PMT and press **ALPHA, ENTER**. This directs the calculator to SOLVE for the payment. PMT = $ _____.

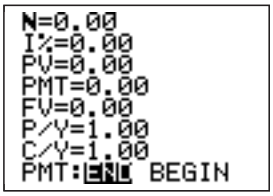
Notice that the answer is negative. The TVM solver distinguishes between money received (+) and money given (−). The negative value makes sense since each payment is money that Esteban and Suzanne give up.

```
 N=12.00
 I%=3.00
 PV=0.00
▪PMT=-205.48
 FV=2500.00
 P/Y=12.00
 C/Y=12.00
 PMT:END BEGIN
```

Practice

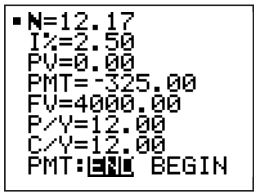
1. Jesse wants to have a party for his girlfriend's birthday in 6 weeks. He estimates it will cost him $500 for snacks, drinks, and entertainment. His savings account pays 2% interest per year, compounded monthly. How much money does he need to save weekly? PMT = $ _____.

2. Tatiana wants to buy a surround-sound system for her TV. She wants it in time for her vacation, in 4 months. It costs $1100. Her account pays 1.8% interest per year, compounded monthly. How much does she need to save each month?



PMT = $ _____.

Example 2:
Carrie and Bill want to build a deck and landscape their backyard. They estimate it will cost $4000. Their account pays 2.5% interest per year, compounded monthly. They can afford to save $325 per month.



- N stands for _____ (skip for now)
- I% stands for _____, so I% = _____.
- PV stands for _____, so PV = _____.
- PMT stands for _____, so PMT = _____.
- FV stands for _____, so FV = _____.
- P/Y stands for _____, so P/Y = _____.
- C/Y stands for _____, so C/Y = _____.

Practice

3. **a)** How long will it take Carrie and Bill to save $4000? N = _____.

b) What payment would they need to make if they already had $1000 saved? PMT = $ _____.

c) If the interest rate is lowered to 1.4%, how long will it take? N = _____.

d) If the interest rate is 1.4% and they only have 8 months to save, how much would they need to save each month?

PMT = $ _____.