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Problem 1

a. 5000(1+.1/1)^(4*1) = **$7320.50**

b. 5000(1+.1/2)^(4*2) = **$7387.28**

c. 5000(1+.1/4)^(4*4) = **$7422.53**

d. 5000(1+.1/12)^(4*12) = **$7446.77**

Problem 2

a. 12000(1+.12/1)^(8*1) = **$19859.95**

b. 12000(1+.12/2)^(8*2) = **$20018.07**

c. 12000(1+.12/4)^(8*4) = **$20100.14**

d. 12000(1+.12/12)^(8*12) = **$20156.03**

Problem 3

a. (1+.12/1)^1–1 = **.115**

b. (1+.12/2)^2-1 = **.1236**

c. (1+.12/4)^4-1 = **.125509**

d. (1+.12/12)^12-1 = **.126825**

Problem 4

a. (1+.115/1)^1-1 = **.115**

b. (1+.115/2)^2-1 = **.118306**

c. (1+.115/4)^4-1 = **.120055**

d. (1+.115/12)^12-1 = **.121259**

Problem 5

$$41413 = P\left(1+\frac{.065}{4}\right)^{(4\bullet 5)}$$

(1+.065/4)^(4*5) = 1.380419775

41413/Ans = **$30000.29**

Problem 6

$$64540 = P\left(1+\frac{.08}{12}\right)^{(12\bullet 6)}$$

(1+.08/12)^(12*6)= 1.613502167

64540/Ans = **$39999.95**

Problem 7

N=7*4
I%=8
PV=0
PMT=150
FV=-**5557.68**
P/Y=4
C/Y=4
PMT:**END** BEGIN

Problem 8

N=10*!2
I%=9
PV=0
PMT=120
FV=-**23221.71**
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 9

N=36
I%=9
PV=-**7861.70**
PMT=250
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 10

N=60
I%=8
PV=-**173804.43**
PMT=5000
FV=0
P/Y=4
C/Y=4
PMT:END BEGIN

Problem 11

N=36
I%=8.5
PV=22000
PMT=-**694.49**
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 12

N=36
I%=9.2
PV=10000
PMT=-**318.93**
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 13

N=48
I%=6
PV=0
PMT=-**332.73**
FV=18000
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 14

N=60
I%=7.2
PV=0
PMT=-**208.44**
FV=15000
P/Y=12
C/Y=12
PMT:END BEGIN

Problem 19

4200000(1+.054/4)^(4*5)=**$5,491,921.88**

Problem 20

2000(1+.08/52)^(52*5)=**$2982.73**

Problem 21

$$19440.31 = P\left(1+\frac{.065}{12}\right)^{(12\bullet 4)}$$ … P = **$15000.00**

Problem 22

We have not directly talked about the concept of "compounded continuously" (which is not often used in the real world). Instead, let's look at "compounded daily", which gives almost the same answer.

$$5986.09 = P\left(1+\frac{.06}{365}\right)^{(365\bullet 3)}$$ … P = **$5000.08** (which is 8¢ different than the amount that would generate this amount compounded continuously)

Problem 23

You do **NOT** need to worry about solving for "r" on the test, but here's how it works.

$$34616 = 24000\left(1+\frac{r}{1}\right)^{5}$$

First divide both sides by 24000

$$1.442333333 = (1+r)^{5}$$

To solve this, you need to take a fifth root. This is the same as taking both sides to the $^1/_5$ power.

1.442333333^(1/5) = 1.076002123 … Subtracting 1, the rate of interest is **.076**

Problem 24

```
N=12*10
I%=8
PV=0
PMT=-218.64
FV=40000
P/Y=12
C/Y=12
PMT:END BEGIN
```

Problem 25

PMT = 400, because her employer matches her contribution.

```
N=12*10
I%=8
PV=0
PMT=400
FV=-73178.41
P/Y=12
C/Y=12
PMT:END BEGIN
```

Problem 26

```
N=4*12
I%=5
PV=-13026.89
PMT=300
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN
```