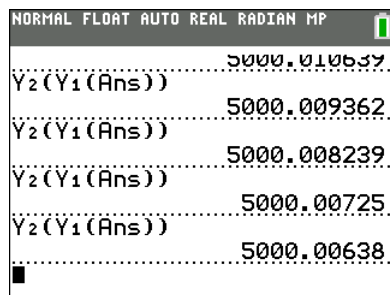
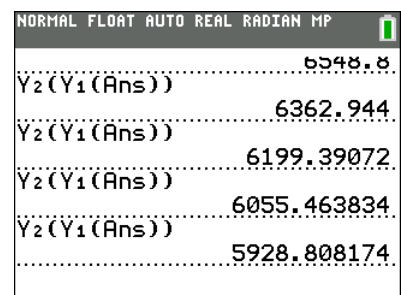
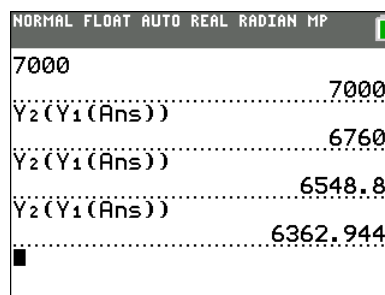
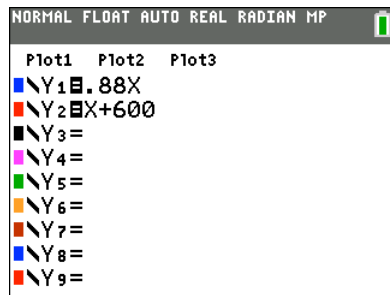


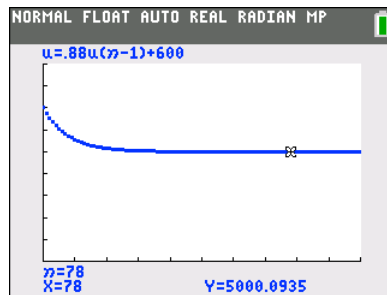
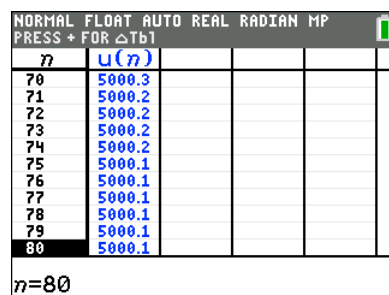
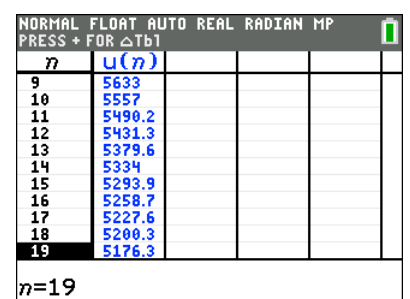
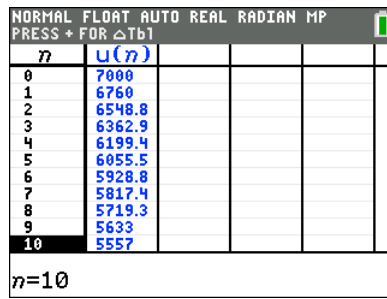
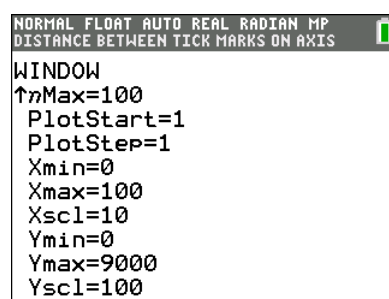
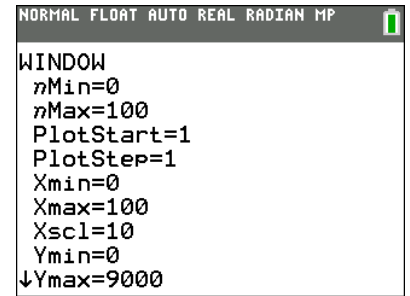
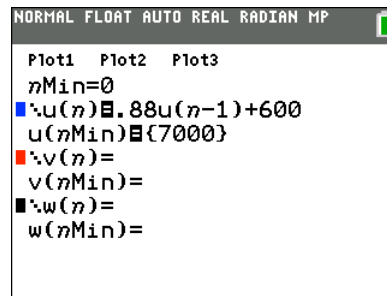
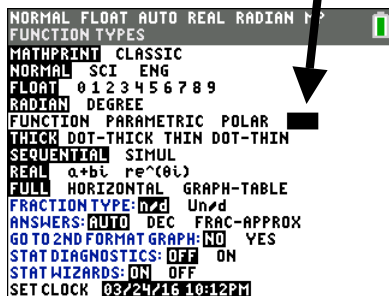
## Screen Shots/ Answer Key for TI-84

### 1. Composition Solution:

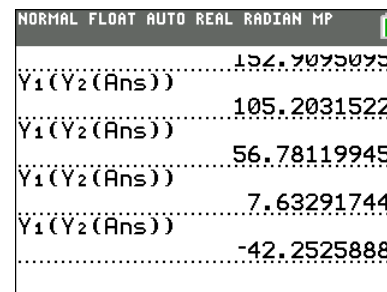
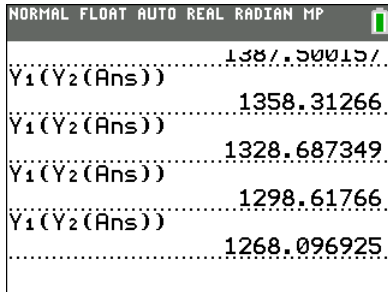
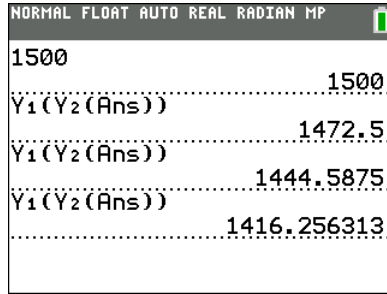
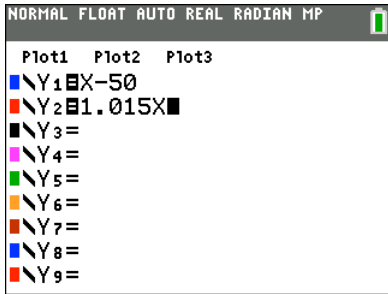


D) 6760.00 trees; 6362.90 trees; 6055.50 trees E) 5000 trees

### 1. Recursive Solution- Use Sequence Mode (SEQ):

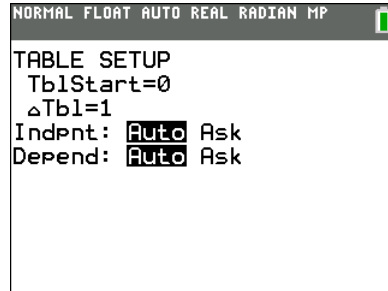
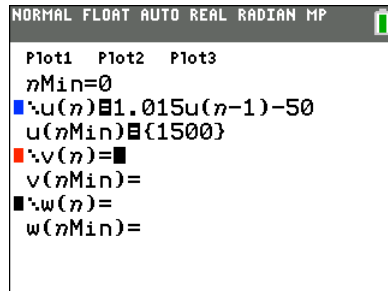


## 2. Composition Solution:



F) 7 months: \$1298.62    G) 41 months: -\$42.25    H)  $40 * \$50 + \$7.63 = \$2007.64$

## 2. Recursive Solution:

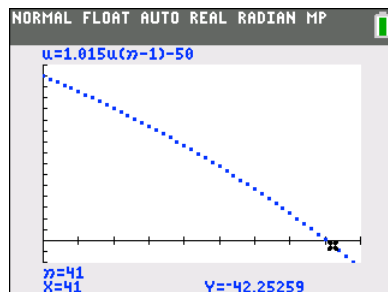
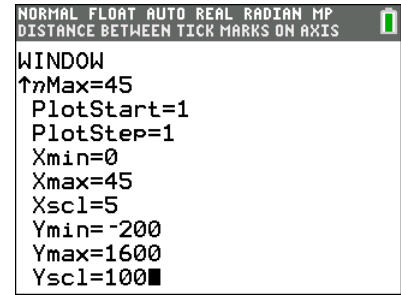
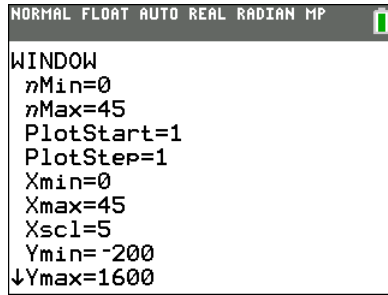


$n$	$u(n)$			
0	1500			
1	1472.5			
2	1444.6			
3	1416.3			
4	1387.5			
5	1358.3			
6	1328.7			
7	1298.6			
8	1268.1			
9	1237.1			
10	1205.7			

$n=10$

$n$	$u(n)$			
32	381.07			
33	336.79			
34	291.84			
35	246.22			
36	199.91			
37	152.91			
38	105.2			
39	56.781			
40	7.6329			
41	-42.25			
42	-92.89			

$n=42$



### 3. Composition Solution:

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
Y1=0.5X
Y2=0.5X+200
Y3=
Y4=
Y5=
Y6=
Y7=
Y8=
Y9=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
800
Y2(Y1(Ans)) 800
Y2(Y1(Ans)) 600
Y2(Y1(Ans)) 500
Y2(Y1(Ans)) 450
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Y2(Y1(Ans)) 450
Y2(Y1(Ans)) 425
Y2(Y1(Ans)) 412.5
Y2(Y1(Ans)) 406.25
Y2(Y1(Ans)) 403.125
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Y2(Y1(Ans)) 400.1733143
Y2(Y1(Ans)) 400.0976563
Y2(Y1(Ans)) 400.0488281
Y2(Y1(Ans)) 400.0244141
Y2(Y1(Ans)) 400.012207
```

D. 600 mg. ; 412.5 mg. ; 400.02 mg. E. After 23 days there will be .7812 mg. F. 400 mg. G. 400 mg.

### 3. Recursive Solution:

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)=.5u(n-1)+200(n≤14)
u(nMin)=800
v(n)=
v(nMin)=
w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
TABLE SETUP
TblStart=0
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
```

n	u(n)			
0	800			
1	600			
2	500			
3	450			
4	425			
5	412.5			
6	406.25			
7	403.13			
8	401.56			
9	400.78			
10	400.39			

n=10

n	u(n)			
10	400.39			
11	400.2			
12	400.1			
13	400.05			
14	400.02			
15	400.01			
16	200.01			
17	100			
18	50.002			
19	25.001			
20	12.5			

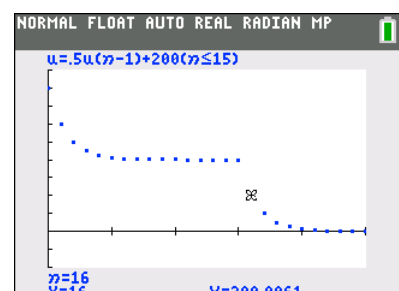
n=20

n	u(n)			
16	200.01			
17	100			
18	50.002			
19	25.001			
20	12.5			
21	6.2502			
22	3.1251			
23	1.5625			
24	.78127			
25	.39064			
26	.19532			

n=26

```
NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
nMin=0
nMax=25
PlotStart=1
PlotStep=1
Xmin=0
Xmax=25
Xscl=5
Ymin=-200
Ymax=900
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
↑nMax=25
PlotStart=1
PlotStep=1
Xmin=0
Xmax=25
Xscl=5
Ymin=-200
Ymax=900
Yscl=100
```



#### 4. Composition Solution:

```

NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
Y1=0.85X
Y2=X+45
Y3=
Y4=
Y5=
Y6=
Y7=
Y8=
Y9=
    
```

```

NORMAL FLOAT AUTO REAL RADIAN MP
450
Y2(Y1(Ans)) 450
Y2(Y1(Ans)) 427.5
Y2(Y1(Ans)) 408.375
Y2(Y1(Ans)) 392.11875
    
```

```

NORMAL FLOAT AUTO REAL RADIAN MP
372.11875
Y2(Y1(Ans)) 378.3009375
Y2(Y1(Ans)) 366.5557969
Y2(Y1(Ans)) 356.5724273
Y2(Y1(Ans)) 348.0865632
    
```

```

NORMAL FLOAT AUTO REAL RADIAN MP
300.001175
Y2(Y1(Ans)) 300.0014616
Y2(Y1(Ans)) 300.0012424
Y2(Y1(Ans)) 300.001056
Y2(Y1(Ans)) 300.0008976
    
```

D) 427.50 mg.; 392.11 mg. ; 329.53 mg. E) 300 mg.

#### 4. Recursive Solution:

```

NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)=.85u(n-1)+45
u(nMin)=450
v(n)=
v(nMin)=
w(n)=
w(nMin)=
    
```

```

NORMAL FLOAT AUTO REAL RADIAN MP
TABLE SETUP
TblStart=0
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
    
```

n	u(n)			
0	450			
1	427.5			
2	408.38			
3	392.12			
4	378.3			
5	366.56			
6	356.57			
7	348.09			
8	340.87			
9	334.74			
10	329.53			

n=10

n	u(n)			
40	300.23			
41	300.19			
42	300.16			
43	300.14			
44	300.12			
45	300.1			
46	300.08			
47	300.07			
48	300.06			
49	300.05			
50	300.04			

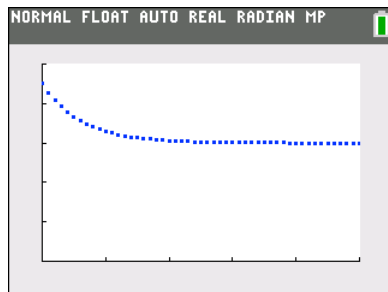
n=50

```

NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
nMin=0
nMax=50
PlotStart=1
PlotStep=1
Xmin=0
Xmax=50
Xscl=10
Ymin=0
Ymax=500
Yscl=500
    
```

```

NORMAL FLOAT AUTO REAL RADIAN MP
DISTANCE BETWEEN TICK MARKS ON AXIS
WINDOW
nMax=50
PlotStart=1
PlotStep=1
Xmin=0
Xmax=50
Xscl=10
Ymin=0
Ymax=500
Yscl=100
    
```



### 5. Composition Solution:

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
Y1=1.003X-300
Y2=
Y3=
Y4=
Y5=
Y6=
Y7=
Y8=
Y9=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
12000
Y1(Ans) 12000
Y1(Ans) 11736
Y1(Ans) 11471.208
Y1(Ans) 11205.62162
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Y1(Ans) 7865.670444
Y1(Ans) 9595.287515
Y1(Ans) 9324.073378
Y1(Ans) 9052.045598
Y1(Ans) 8779.201735
```

12 month balance

```
NORMAL FLOAT AUTO REAL RADIAN MP
Y1(Ans) -571.6710607
Y1(Ans) -698.8841338
Y1(Ans) -1000.980786
Y1(Ans) -1303.983729
Y1(Ans) -1607.89568
```

4 year balance is -\$1607.90 (not enough money)

### 5. Recursive Solution:

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)=1.003u(n-1)-300
u(nMin)=12000
v(n)=
v(nMin)=
w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
TABLE SETUP
TblStart=0
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
```

n	u(n)			
0	12000			
1	11736			
2	11471			
3	11206			
4	10939			
5	10672			
6	10404			
7	10135			
8	9865.7			
9	9595.3			
10	9324.1			

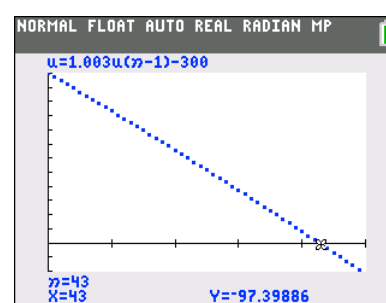
n=10

n	u(n)			
40	798.1			
41	500.49			
42	202			
43	-97.4			
44	-397.7			
45	-698.9			
46	-1001			
47	-1304			
48	-1608			
49	-1913			
50	-2218			

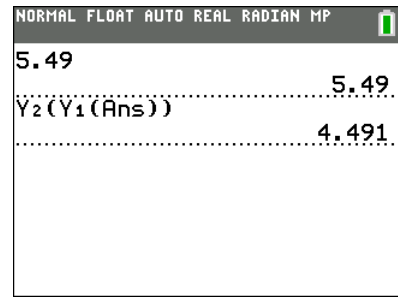
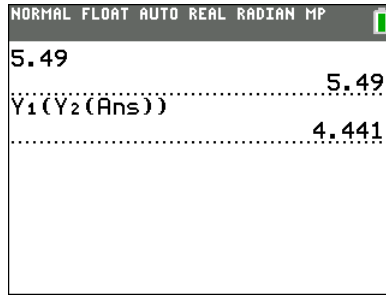
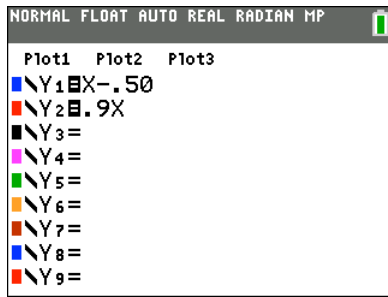
n=50

```
NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
nMin=0
nMax=50
PlotStart=1
PlotStep=1
Xmin=0
Xmax=50
Xscl=10
Ymin=-2000
Ymax=12000
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
DISTANCE BETWEEN TICK MARKS ON AXIS
WINDOW
nMax=50
PlotStart=1
PlotStep=1
Xmin=0
Xmax=50
Xscl=10
Ymin=-2000
Ymax=12000
Yscl=1000
```



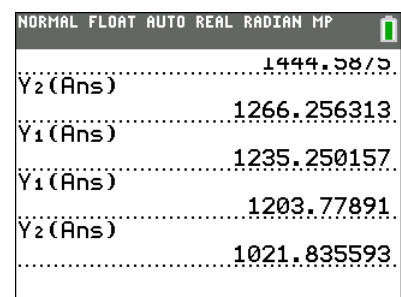
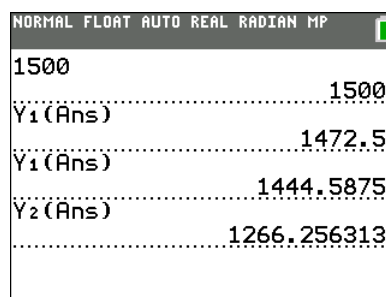
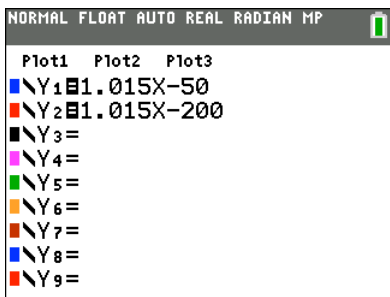
**6. Composition Solution:**



**Priya's Server**

**Jen's Server**

**7. Composition Solution:**



Month	Pay Amt	Formula	Balance
0	-	-	1500
1	50	Y1(ans)	1472.5
2	50	Y1(ans)	1444.59
3	200	Y2(ans)	1266.26
4	50	Y1(ans)	1235.25
5	50	Y1(ans)	1203.78
6	200	Y2(ans)	1021.84
7	50	Y1(ans)	987.17
8	50	Y1(ans)	951.98
9	200	Y2(ans)	766.26
10	50	Y1(ans)	727.74
11	50	Y1(ans)	688.66
12	200	Y2(ans)	498.99
13	50	Y1(ans)	456.47
14	50	Y1(ans)	413.32
15	200	Y2(ans)	219.52
16	50	Y1(ans)	172.81
17	50	Y1(ans)	125.41
18	200	Y2(ans)	-72.71

**E.** At 7 months balance is \$987.17    **F.** Balance paid at 18 months.

## 7. Recursive Solution:

Use this function:  $\left(\left(\text{Int} \frac{n}{3} = \frac{n}{3}\right) \times (1.015a_n - 200) + \left(\left(\text{Int} \frac{n}{3} \neq \frac{n}{3}\right) \times (1.015a_n - 50)\right)\right)$

### Classic

```
NORMAL FLOAT AUTO REAL RADIAN CL
Plot1 Plot2 Plot3
nMin=0
u(n)≡(((int(n/3))=(n/3))
)*(1.015*u(n-1)-200)+(((int
t((n)/3))≠(n/3)))*(1.015*u
(n-1)-50)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

Note the value of nMin=0.

### Math Print

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)≡(((int(n/3))=n/3))*
(1.015*u(n-1)-200)+(((int
t(n/3))≠n/3))*
(1.015*u(n-1)-50)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)≡(1.015*u(n-1)-200)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)≡(1.015*u(n-1)-50)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)≡(1.015*u(n-1)-200)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
u(n)≡(1.015*u(n-1)-50)
u(nMin)≡{1500}
v(n)=
v(nMin)=
w(n)=
```

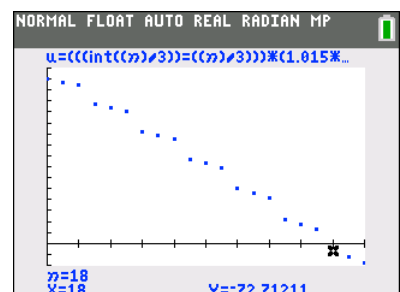
```
TABLE SETUP
TblStart=0
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
```

n	u(n)			
0	1500			
1	1472.5			
2	1444.6			
3	1266.3			
4	1235.3			
5	1203.8			
6	1021.8			
7	987.16			
8	951.97			
9	766.25			
10	727.74			

n=10

n	u(n)			
8	951.97			
9	766.25			
10	727.74			
11	688.66			
12	498.99			
13	456.47			
14	413.32			
15	219.52			
16	172.81			
17	125.41			
18	-72.71			

n=18



```
NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
nMin=0
nMax=20
PlotStart=1
PlotStep=1
Xmin=0
Xmax=20
Xsc1=2
Ymin=-200
Ymax=1600
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
DISTANCE BETWEEN TICK MARKS ON AXIS
WINDOW
nMax=20
PlotStart=1
PlotStep=1
Xmin=0
Xmax=20
Xsc1=2
Ymin=-200
Ymax=1600
Ysc1=100
```

### 8. Composition Solution:

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
Y1=1.015X-50
Y2=1.015X-250
Y3=
Y4=
Y5=
Y6=
Y7=
Y8=
Y9=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
1500
Y1 (Ans) 1500
Y1 (Ans) 1472.5
Y2 (Ans) 1444.5875
Y2 (Ans) 1216.256313
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Y2 (Ans) 1444.5875
Y1 (Ans) 1216.256313
Y1 (Ans) 1184.500157
Y1 (Ans) 1152.26766
Y2 (Ans) 919.5516744
```

Month	Pay Amt	Formula	Balance
0	-	-	1500
1	50	Y1(ans)	1472.5
2	50	Y1(ans)	1444.59
3	250	Y2(ans)	1216.26
4	50	Y1(ans)	1184.5
5	50	Y1(ans)	1152.27
6	250	Y2(ans)	919.55
7	50	Y1(ans)	883.34
8	50	Y1(ans)	846.6
9	250	Y2(ans)	609.29
10	50	Y1(ans)	568.43
11	50	Y1(ans)	526.96
12	250	Y2(ans)	284.86
13	50	Y1(ans)	239.14
14	50	Y1(ans)	192.72
15	250	Y2(ans)	-54.39

### 8. Recursive Solution:

Use this function: 
$$\left( \left( \text{Int} \frac{n}{3} = \frac{n}{3} \right) \times (1.015a_n - 250) + \left( \left( \text{Int} \frac{n}{3} \neq \frac{n}{3} \right) \times (1.015a_n - 50) \right)$$



## Classic

```
NORMAL FLOAT AUTO REAL RADIAN CL
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀(((int(n/3))=(n/3))
)*(1.015*u(n-1)-250)+(((in
t((n)/3))≠(n/3)))*(1.015*u
(n-1)-50)
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
```

## Math Print

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀(((int(n/3))=n/3))*
(1.015*u(n-1)-250)+(((int
(n/3))≠n/3))*
(1.015*u(n-1)-50)
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀(1.015*u(n-1)-250)
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀50+(((int(n/3))≠n/3)
*(1.015*u(n-1)-50))
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀(1.015*u(n-1)-50)
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
w(nMin)=
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
Plot1 Plot2 Plot3
nMin=0
▀:u(n)▀(1.015*u(n-1)-50)
u(nMin)▀{1500}
▀:v(n)=
v(nMin)=
▀:w(n)=
w(nMin)=
```

```
TABLE SETUP
TblStart=0▀
ΔTbl=1
Indent: Auto Ask
Depend: Auto Ask
```

```
NORMAL FLOAT AUTO REAL RADIAN CL
PRESS + FOR ΔTbl1
```

n	u(n)				
0	1500				
1	1472.5				
2	1444.6				
3	1216.3				
4	1184.5				
5	1152.3				
6	919.55				
7	883.34				
8	846.6				
9	609.29				
10	568.43				

n=10

```
NORMAL FLOAT AUTO REAL RADIAN CL
PRESS + FOR ΔTbl1
```

n	u(n)				
5	1152.3				
6	919.55				
7	883.34				
8	846.6				
9	609.29				
10	568.43				
11	526.96				
12	284.86				
13	239.14				
14	192.72				
15	-54.38				

n=

```
NORMAL FLOAT AUTO REAL RADIAN MP
WINDOW
nMin=0
nMax=20
PlotStart=1
PlotStep=1
Xmin=0
Xmax=20
Xscl=2
Ymin=-200
Ymax=1600▀
↓Ymax=1600▀
```

```
NORMAL FLOAT AUTO REAL RADIAN MP
DISTANCE BETWEEN TICK MARKS ON AXIS
WINDOW
↑nMax=20
PlotStart=1
PlotStep=1
Xmin=0
Xmax=20
Xscl=2
Ymin=-200
Ymax=1600
Yscl=100
```

