

Chapter 4

- Using **2nd** [SIMULT] we find the solution to be $x_1 = 0$, $x_2 = 2.5$, $x_3 = 1.5$.
- After setting up **2nd** [POLY] as shown below to solve the equation $x^5 - 32 = 0$, selecting **<SOLVE>** will give the roots of 32 to be

$(2, 0), (-1.61803398875, \pm 1.17557050458), (.61803398875, \pm 1.90211303259)$.

```
asx^5+...+a1x+a0=0
a5=1
a4=0
a3=0
a2=0
a1=0
a0=-32
CLR  SOLVE
```

- Enter the equation $x * y = 6e^{(x+y-5)}$ in the solver editor. Then when $x = 2$ we obtain solutions $y = 3$ and $y = 0.17856062787792$. When y is set equal to 1, we obtain solutions $x = 0.1244586309499$ and $x = 3.4452316857272$. In order to solve part (c) of this problem it is necessary to edit the equation being solved by replacing each occurrence of y by $2x$, i.e. solve $2x^2 = 6e^{(3x-5)}$ and eventually find that

$(0.18868762259941, 0.37737524519882)$ and $(1.6235318626047, 3.2470637252094)$

are the positive solutions to the original equation in this exercise which satisfy $y = 2x$.

4.

```
AMT=((1-(1+rate/12)^...
AMT=15000
rate=.084
months=84
Pmt=236.79367706576
bound=(-1e99,1e99)
left-rt=0
GRAPH WIND ZOOM TRACE SOLVE
```

Exercise Solutions *(Continued)*

5. Use the equation $10*A + B = (A + B)^2$ in the SOLVER editor and check the solution values for B for the A values of 1, 2, 3, 4, 5, 6, 7, 8, 9. Recall that both A and B will be integers between 1 and 9. The only solution is shown below, namely the two-digit number 81.

```
10*A+B=(A+B)^2
A=8
▪ B=.9999999999999998
bound=(-1E99,1E99)
▪ left-rt=0
GRAPH WIND ZOOM TRACE SOLVE
```

6. The approximate solutions are $x = .58853274398186$, $x = 3.0963639324106$, $x = 6.2850492733826$.