

18. $5431.66 = 4000(1+x)^5$
 $1.3579 = (1+x)^5$
 $1.0631 = x+1$
 $x = .0631$
 $= 6.31\%$

19. $A = 1000(1 + \frac{.045}{12})^{12}$
 $= 1049.05$
 $A = 1000(1.05)$
 $= 1050$

BANK WITH 5% ANNUAL RATE

47. $1000 + 1000(1.04)^4 + 1000(1.04)^3 + 1000(1.04)^2$
 $+ 1000(1.04)^1 =$
 $1000 + 854.80 + 889 + 924.56 + 9615.38$
 $= 13,283.74$
 $854.80 + 889 + 924.56 + 821.93 + 9615.38$
 $= 13,105.67$

$(1000 + 10000(1.04)^{-4} + 1000(1.04)^{-3} + 1000(1.04)^{-2}$
 $+ 1000(1.04)^{-1} =$
 $1000 + 8548.04 + 889 + 924.56 + 961.54$
 $= \$12,323.13$

20. $(1 + \frac{.06}{4})^4 P$
 $= (1.0614)P$
 OR 6.14% ANNUALLY

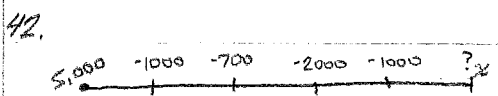
54. $6000(1+i)^4 - 4000(1+i)^2 - 3000 = 0$
 USING GRAPHING CALCULATORS "ZERO FUNCTION"
 $i = 5.5968\%$

21. $PV = (1+i)^{-n} P$
 $PV = (1.07)^{-5} 12,000$
 $PV = \$7996.11$

$x^2 = \frac{4000 \pm \sqrt{(4000)^2 - 4(6000)(-3000)}}{2(6000)}$
 $x^2 = \frac{4000 \pm 9380.83}{12000}$

22. $FV = (1+i)^n P$
 $FV = (1.045)^3 45,000$
 $FV = \$63,994.53$

$x = 1.055968$
 $= 5.59684\%$



$5000(1.071)^5 - 1000(1.071)^4 - 700(1.071)^3 - 2000(1.071)^2 - 1000(1.071) = x$
 $x = 7045.59 - 1315.70 - 859.94 - 2294.08 - 1071$
 $x = \$1504.87$