Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How much interest will he earn?

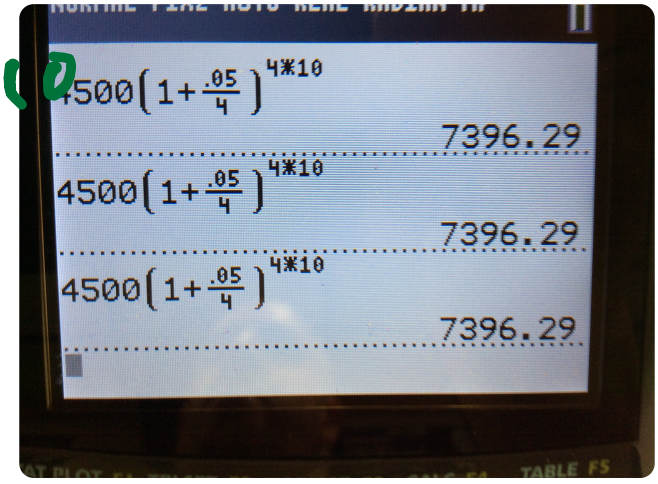
Problem 8: William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years ?

Problem 9: Suppose William, from our last example, only has $3500 to invest but still wants $4000 for a hot tub. He finds a bank offering 5.25% interest compounded quarterly. How long will he have to leave his money in the account to have $4000?

1

$$A = P\left(1+\frac{R}{N}\right)^{Nt}$$

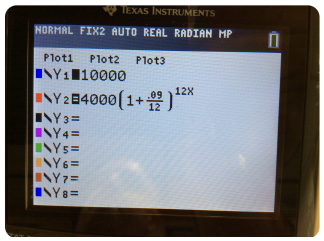
$$A = 4500\left(1+\frac{.05}{4}\right)^{4\times 10}$$

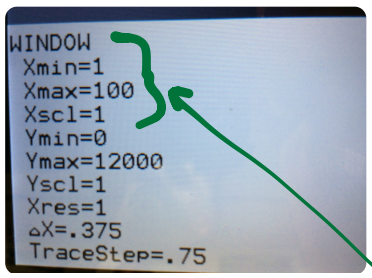


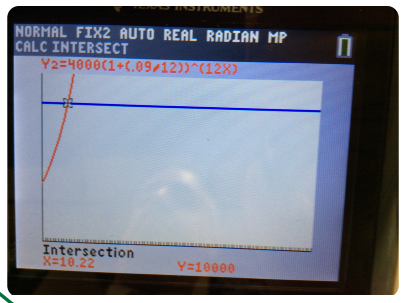
(2)

$$A = P\left(1+\frac{R}{N}\right)^{Nt}$$

$$10000 = 4000\left(1+\frac{.09}{12}\right)^{12x}$$



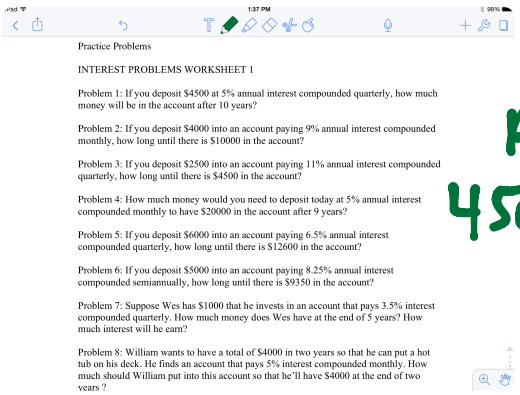




10.2 years

assume it'll take between 1 & 100 years

(3)


Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

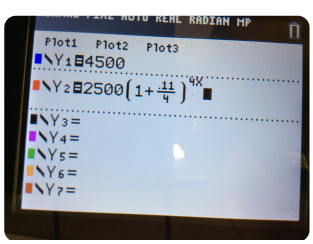
Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

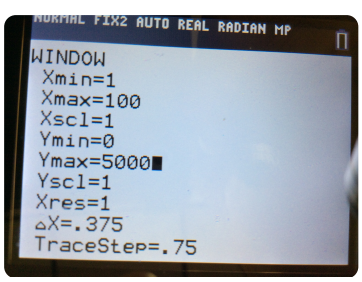
Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How much interest will he earn?

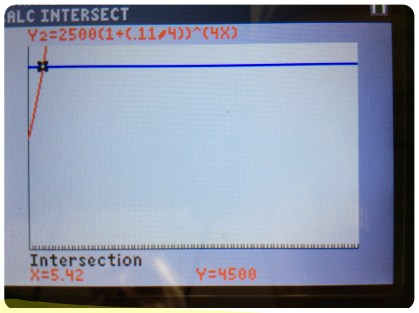
Problem 8: William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years ?

$$A = P\left(1+\frac{R}{N}\right)^{Nt}$$

$$4500 = 2500\left(1+\frac{.11}{4}\right)^{4t}$$



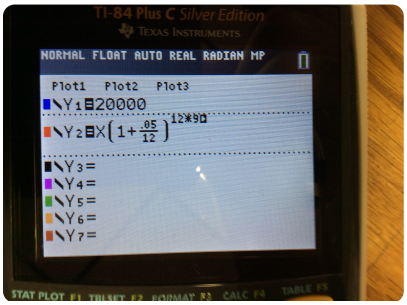


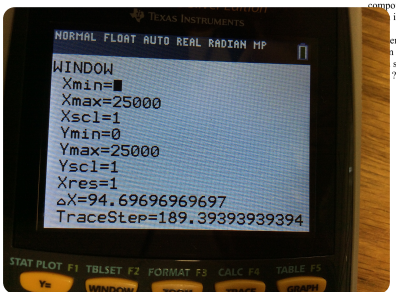


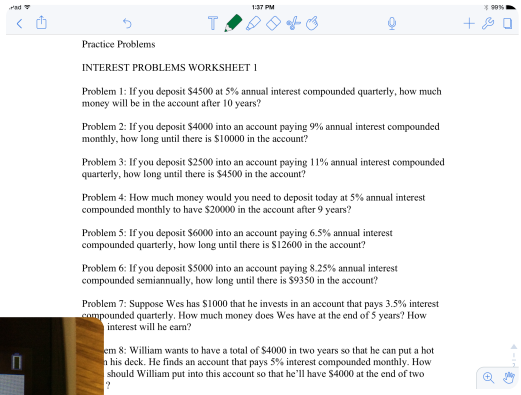
5.4 years

(4) $A = P\left(1+\frac{R}{N}\right)^{Nt}$

$20000 = X\left(1+\frac{.05}{12}\right)^{12\times 9}$







Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

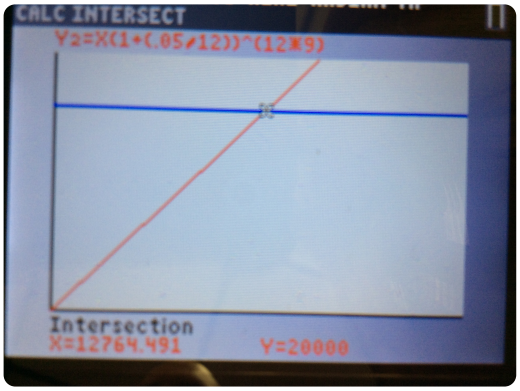
Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How interest will he earn?

em 8: William wants to have a total of $4000 in two years so that he can put a hot h his deck. He finds an account that pays 5% interest compounded monthly. How should William put into this account so that he'll have $4000 at the end of two ?

Since you are solving for the amount of money that needs to be invested in order to get $ 20,000 in the future, set XMax to bigger than 20,000.



$ 12,764.49

Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

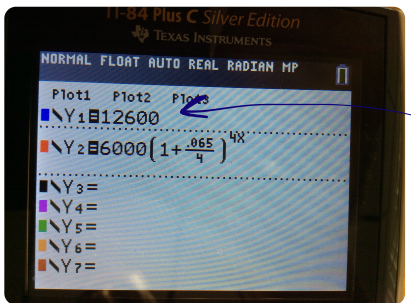
Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How much interest will he earn?

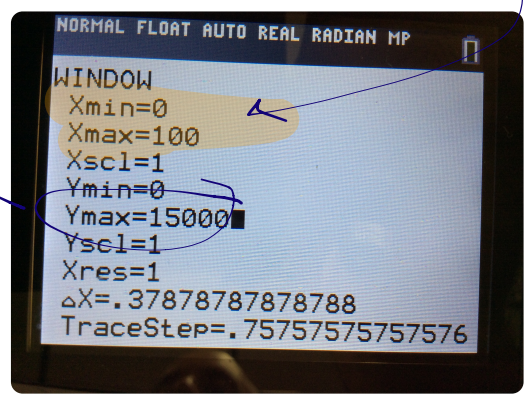
Problem 8: William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years ?

(5) $A = P\left(1+\frac{R}{N}\right)^{Nt}$

$12600 = 6000\left(1+\frac{.065}{4}\right)^{4x}$

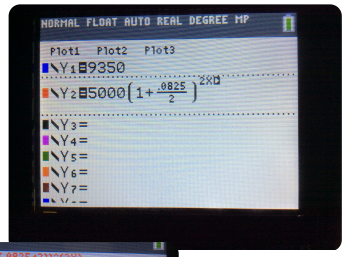
Assume it'll take between 1 and 100 years for the money to increase

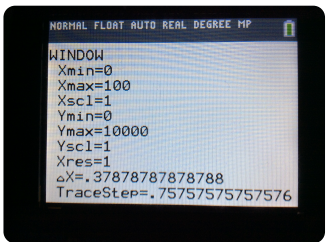


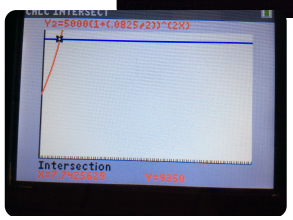


(6) $A = P\left(1+\frac{R}{N}\right)^{Nt}$

$9350 = 5000\left(1+\frac{.0825}{2}\right)^{2x}$







7.7 years

Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How much interest will he earn?

Problem 8: William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years ?

7

$$A = P\left(1+\frac{R}{N}\right)^{Nt}$$

$$A = 1000\left(1+\frac{.035}{4}\right)^{4\times 5}$$

$$A = \$1190.34$$

Interest = Balance − principal

$$\$190.34$$

Practice Problems

INTEREST PROBLEMS WORKSHEET 1

Problem 1: If you deposit $4500 at 5% annual interest compounded quarterly, how much money will be in the account after 10 years?

Problem 2: If you deposit $4000 into an account paying 9% annual interest compounded monthly, how long until there is $10000 in the account?

Problem 3: If you deposit $2500 into an account paying 11% annual interest compounded quarterly, how long until there is $4500 in the account?

Problem 4: How much money would you need to deposit today at 5% annual interest compounded monthly to have $20000 in the account after 9 years?

Problem 5: If you deposit $6000 into an account paying 6.5% annual interest compounded quarterly, how long until there is $12600 in the account?

Problem 6: If you deposit $5000 into an account paying 8.25% annual interest compounded semiannually, how long until there is $9350 in the account?

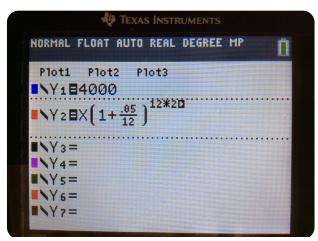
Problem 7: Suppose Wes has $1000 that he invests in an account that pays 3.5% interest compounded quarterly. How much money does Wes have at the end of 5 years? How much interest will he earn?

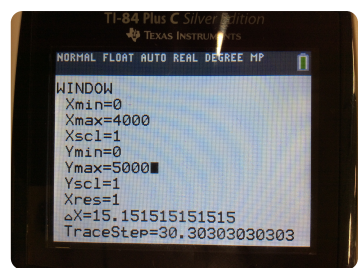
Problem 8: William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years ?

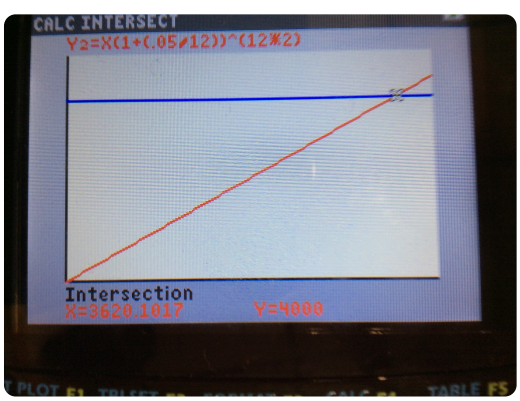
8

$$A = P\left(1+\frac{R}{N}\right)^{Nt}$$

$$4000 = X\left(1+\frac{.05}{12}\right)^{12\cdot 2}$$





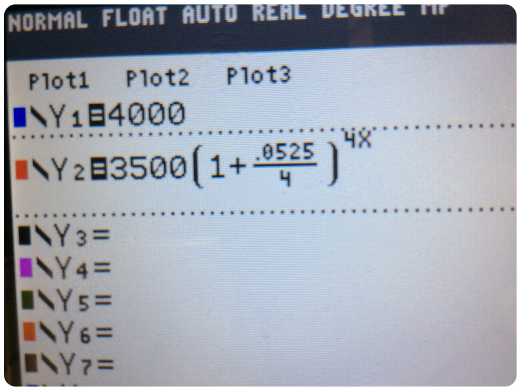


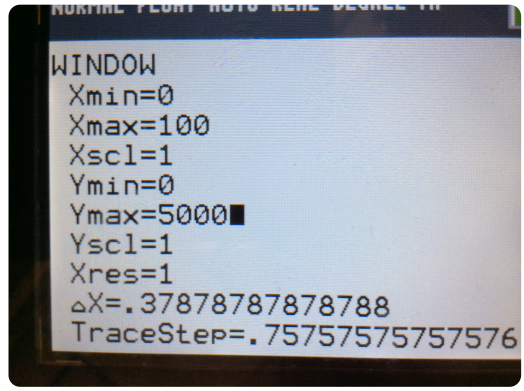
$$\$3620.10$$

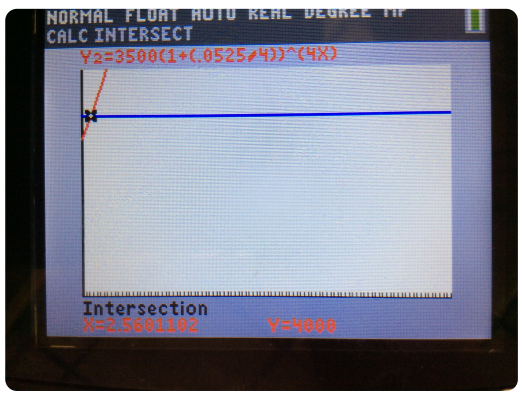
Problem 9: Suppose William, from our last example, only has $3500 to invest but still wants $4000 for a hot tub. He finds a bank offering 5.25% interest compounded quarterly. How long will he have to leave his money in the account to have $4000?

$$A = P\left(1 + \frac{R}{N}\right)^{Nt}$$

$$4000 = 3500\left(1 + \frac{.0525}{4}\right)^{4x}$$







$X = 2.56$ years