

Act III  
Math Time!

A few years ago, Ms. Schneck lived through a total home remodel. She took on some shrapnel during the process, but don't worry, she is going to make it. I'm going to walk you through some math so that you can see how Ms. Schneck saved a ton of dinero by utilizing government incentives to "go green."

Here's how it all went down ... ready your calculator ...

Schneck invested in a solar photovoltaic energy system – initial cost: **\$64,000**

At that time PSEG (Public Service Enterprise Group) was known as LIPA (Long Island Power Authority). She received a LIPA subsidy that reduced the cost of the solar energy system by 50%.

**a.** Schneck's cost of the system now became ... \_\_\_\_\_

(Wouldn't that be awesome enough savings? Well Schneck didn't stop there!)

Schneck then applied for a federal tax credit. The government gives a tax credit for 30% of the cost of the installation of solar energy systems. So remember what a tax credit is. At tax time, you get this money (dollar for dollar) toward what you owe. If you don't owe taxes, then this money becomes a cash refund.

So the next deduction from the original cost would be ...

**b.** What is 30% of cost from part **a**? \_\_\_\_\_

**c.** Subtract **b** from **a** to find out the new reduced cost of this system. \_\_\_\_\_

(Even better right? But we aren't done yet!)

Finally, Schneck applied for a state tax credit. New York State also gives a tax credit for 25% of the cost of the system, but with a maximum \$5000 limit.

**d.** Calculate 25% of the amount calculated in part **c**.  
How much did the state credit Schneck? \_\_\_\_\_

**e.** Subtract **d** from **c** to get Schneck's final cost of her photovoltaic solar energy system. \_\_\_\_\_

(added bonus ... the cost was spread out over 6.6 years)

Pretty impressive savings right? But hold on to your potatoes ... the story of General Schneck doesn't end here.

Geothermal energy is derived from inside the Earth. People can use such a system to both heat and cool their homes. We will get more into the technical aspects of this at another time, but realize that this is just another way to reduce the use of fossil fuels as an energy source and is therefore supports the mantra of sustainable living.

Schneck invested in a geothermal system – initial cost: **\$60,000**

Schneck then applied for another 30% federal tax credit.

a. What is 30% of her initial cost ... \_\_\_\_\_

b. Subtract **a** from the initial cost to find out the new reduced cost of this system. \_\_\_\_\_

Next, Schneck applied for a state tax credit. Remember, New York State also gives tax credit for 25% of the cost of the system, but with a maximum \$5000 limit.

c. Calculate 25% of the amount calculated in part **b**. How much did the state credit Schneck? \_\_\_\_\_

d. Subtract **c** from **b** to find out the new reduced cost of this system. \_\_\_\_\_

LIPA also gives a customer a \$1500 cash rebate for each heat pump installed with the system. Schneck's system required 2 heat pumps. So do a little more math ...

e. LIPA rebate savings from 2 heat pumps \_\_\_\_\_

f. Subtract **e** from **d** to get Schneck's final cost of her geothermal system. \_\_\_\_\_

(once again, added bonus ... the cost was spread out over 7 years)

We are rounding home plate ... So just to sum up ...

Ms. Schneck's initial cost of both systems: \_\_\_\_\_

Ms. Schneck's final cost of both systems as a result of a **federal and state tax credits**, as well as **subsidies** and **rebates** from the power company: \_\_\_\_\_

Total amount of \$\$ saved by Schneck (doesn't she rule!) \_\_\_\_\_

*'NUFF SAID*