ACCORDING TO TEENAGERS RESEARCH UNLIMITED, THE AVERAGE TEENAGER IN THE UNITED STATES SPENDS $109 PER WEEK.

WHAT IF YOU SAVED $5,668 PER YEAR (109 X 52) FOR 45 YEARS AT 8% INTEREST, HOW MUCH WOULD YOU HAVE AT RETIREMENT?

$S = P[(1 + i)^ n - 1]/ i$

S = total savings after i years investing P dollars each year at i interest per year.
P = payment made every year.
i = interest earned each year.
n = number of years that P was invested.

S = 5668[(1 + .08)^45 - 1]/ .08

In order to test different values of investments, interest rates, or number of years, set the formula up as a function:

$y = x[(1 + .08)^45 - 1]/.08$

*set the window large enough such as x min at 0 and x max at 30,000; y min at 0 and y max at 10,000,000
*2nd trace value x = 5,668 will yield a y output of $2,190,713
*2nd trace value x = 10,000 will yield a y output of $3,865,056
*2nd trace value x = 20,000 will yield a y output of $7,730,112
*2nd trace value x = 50,000 will yield a y output of $19,325,281
*2nd trace value x = 100,000 will yield a y output of $38,650,562

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HOMEWORK

1. DETERMINE HOW MUCH MONEY YOU SPEND IN A WEEK ON AVERAGE.

2. TAKE THAT AMOUNT OVER ONE YEAR, ASSUME AN AVERAGE INTEREST RATE OF 8% PER YEAR, FOR 45 YEARS.

3. DETERMINE HOW MUCH MONEY YOU WILL HAVE SAVED AT THE END OF 45 YEARS.

4. CHANGE THE INTEREST RATE TO 10%, 12%, AND 14%, RESPECTIVELY, TO DETERMINE HOW MUCH MORE YOU WOULD HAVE SAVED IN THE EVENT THAT YOU MAKE BETTER INVESTMENT DECISIONS.

ANSWERS TO HOMEWORK

$y = 5668 \ [(1 + X) ^ 45 - 1]/X$

where X is the interest rate

*set the window large enough such as x min at 0 and x max at 10000

* 2nd trace value	x = .08 will yield a	y output of	$ 2,190,713
*2nd trace value	x = .1 will yield a	y output of	$ 4,074,752
*2nd trace value	x = .12 will yield a	y output of	$ 7,698,447
*2nd trace value	x = .14 will yield a	y output of	$ 14,683,321