



TI-84

7TH GRADE ACTIVITY 7: TWO FRIENDS' METHODS

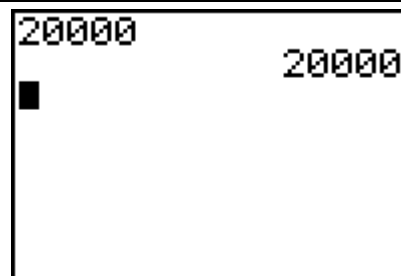
ACTIVITY OVERVIEW:

In this activity we will

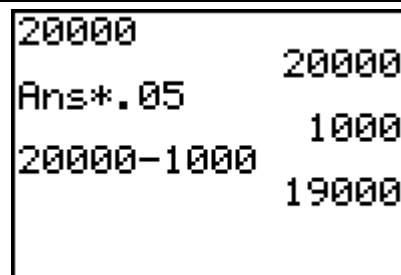
- Investigate decrease in items as a percent change
- Consider several methods for calculating percent change
- Develop a procedure that can be repeated to solve problems

Milo tells Otis his brother has just purchased a car. "It is worth \$20,000". Every year, "it loses 5% of its value." Otis says, "When will it be worth \$10,000? Will it take 10 years?" Milo states, "I have a way to figure this out. Let me explain it to you."

Start with your \$20,000. Use your calculator. You can't do this with your fingers and maybe not in your head. You'll see why Otis. Type in the 20000. Press **ENTER** to enter that value in your calculator. When it shows up on the right, the calculator knows your number.



Press **×** to multiply and enter .05. Press **ENTER**. Then subtract those two numbers. You can arrow up to each number and press **ENTER** to "grab" the number to use it. That's how much is left after 1 year.



Write it down in a table with the amount of years in the first column and the new value in the second column. You'll find the answer that way. Don't forget to round the answer to You can do two decimal places. Write this in your notebook or a piece of paper.

Otis thinks for a minute. "I think I have a better way Milo. It will even keep track of the amount of years." Milo frowns. "You can't do that with a calculator. If you're so sure, show me how it's done."

Otis presses the $\boxed{2nd} \boxed{[]} 0 \boxed{.} 20000 \boxed{2nd} \boxed{[]} \boxed{ENTER}$.

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(0,20000)
(0 20000)
```

He then sets the calculator to remove 5% of the price constantly by pressing $\boxed{2nd} \boxed{[]} \boxed{2nd} \boxed{(-)} \boxed{[]} 1 \boxed{)} + 1 \boxed{2nd} \boxed{(-)} \boxed{[]} 2 \boxed{)} * .95 \boxed{2nd} \boxed{[]}$. His calculator screen looks just like the one on the right.

```
(Ans(1)+1,Ans(2)
*.95)
```

press \boxed{ENTER} to see how much is left after 1 year. Keep pressing \boxed{ENTER} to see year 2, 3, 4, ...

```
(0,20000)
(0 20000)
(Ans(1)+1,Ans(2)
*.95)
(1 19000)
```

You can copy the year and the amount next to it that remains. Again, round it to two decimal places.

```
(0,20000)
(0 20000)
(Ans(1)+1,Ans(2)
*.95)
(1 19000)
(2 18050)
(3 17147.5)
█
```

Compare the two methods and decide which one you like better. Can you come up with your own method to improve on Milo and Otis' procedures?