



5. Use either the formula,  $NEW=OLD+p\cdot OLD$  or the formula you found in #4 to answer the following questions.

(a) The population of a town was 4000 people in 2010 and 4093 in 2012. What was the percentage change in the population?

(b) A pair of shoes that regularly costs \$103 is on sale for \$60. What percent savings is this? (Again, your proportionate change will be *negative*.)

(c) A business purchased for \$650,000 in 1994 sold for \$850,000 in 1997. What was the percent change in its value?

(d) A collectible lunchbox increases in value by 1.4% per year. If it is worth \$507 one year from now, what is its value today?

(e) You start a new job with a starting salary of \$40,000 and a 2% cost-of-living raise each year. Fill in the following table:

$t$ (in years)	salary after $t$ years	dollar amount of raise
0	\$40,000	$\$40,000 \cdot 0.02 = \$800$
1	\$40,800	$\$40,800 \cdot 0.02 =$
2		
3		
4		

Is it true that a salary that increases by 2% per year increases by 8% in four years? Explain.