

1. In 2006 Mr and Mrs Mann paid £420 for their car insurance. The cost of insurance has risen by 4% each year. How much do they pay in 2011?
2. The South American Tree Octopus is an endangered species. Conservationists claim that the number falls by 15% each year. There were an estimated 4000 SATO'i at the end of 2007. If the claims are true, how many SATO'i remained at the end of 2010?
3. The population of Bodflikistan is growing at a rate of 8% per year. What was the population at the end of 2010 if it was 1,825,000 at the end of 2000?
4. Eileen Dover puts £545 in a savings account offering compound interest at 5.2% p.a. How much is there in her account after 4 years?
5. Anna Rack borrows £2000 from her bank for 3 years at 8.3% p.a. What is the total amount that she must repay?
6. House prices in Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogoch are going up by 5% a year. A house is valued at £127,000. What should its value be in three years' time?



7. A ball bounces to a height 20% lower  
than its previous bounce.  
a) If the ball is dropped from a height of 150cm, how high is its first bounce?  
b) Which is the first bounce to a height less than 20cm?
8. In 1996, a plague of billions of mice developed in Australia, due to unusually warm conditions and a surplus of food. On 1 January it is estimated that on one particular farm there were 40 mice. Over the next twelve months, the number of mice increased at a rate of 118% per month. How many mice occupied the farm at the end of this period?
9. In a particular incident during the American War of Independence (1775), a careless British soldier damaged an unlucky American farmer's fence. It was estimated that this cost the farmer the equivalent of £6. In 1965 a descendant of the farmer tried his luck and billed the British Government for the amount which (he claimed) had accumulated at 5% per year.

How much was British Government billed? (*The end of the story? The British Chancellor of the Exchequer paid the American £6 out of his own pocket*)

