



Show that the equation

$$x^3 + 5x = 4$$

has a solution between  $x = 0$  and  $x = 1$

Show that the equation  $x^3 + 5x = 4$  can be rearranged to give

$$x = \frac{4}{5} - \frac{x^3}{5}$$

Starting with  $x_0 = 0$   
use the iteration formula

$$x_{n+1} = \frac{4}{5} - \frac{x_n^3}{5}$$

three times to find an estimate for the solution of  $x^3 + 5x = 4$

Trevor is a car salesman.  
He bought a car for £5000.  
Currently he is holding a sale with 35% off the price of all cars.  
Trevor wants to sell the car so that he makes a 10% profit on the price he paid.

How much should Trevor advertise the car for?

Here are the first 5 terms of a quadratic sequence

8      15      24      35      48

Find an expression, in terms of  $n$ , for the  $n$ th term of this quadratic sequence.