



"A rose-red city half as old as Time.  
One billion years ago the city's age  
Was just two-fifths of what Time's age will be  
A billion years from now. Can you compute  
How old the crimson city is today?"

Based on these five lines can you figure out how old is the Rose-Red city?



The Rose-Red city's age is seven billion years. Let  $C$  be the city's present age;  $T$ , the present age of Time. A billion years ago the city would have been  $C - 1$  billion years old and a billion years from now Time's age will be  $T + 1$ . The data in the puzzle allows us to create two simple equations:

$$2C = T$$

$$C - 1 = \frac{2}{5}(T + 1)$$

These equations give  $C$ , the city's present age, a value of seven billion years; and  $T$ , Time's present age, a value of fourteen billion years.