

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Quiz 5

- 1) Let  $g$  be the function given by

$$g(n) = \begin{cases} \frac{n}{2} & \text{if } n \text{ is even} \\ \frac{3n+1}{2} & \text{if } n \text{ is odd} \end{cases}$$

Show that for positive integer  $n = 8$ , starting from  $n$  and iterating  $g$ , the function value eventually returns to 1.

- 2) Compute  $-950 + 857$  using 2's complement addition. Use 12 bits for your word size. Note the 950 is 3B6 in hexadecimal and positive 857 is 359 in hexadecimal. Show your work and check your answer.