

## Quiz 6

1. Find a recursive formula and a closed formula for the sequence below. (8 pts.)

3, 6, 9, 12, 15, ...

2. Prove that for every  $n \geq 1$ , (8 pts.)

$5^n - 3^n$  is even.

3. Formally state and give a proof of Junior's last statement in the conversation below. (4 pts.)

**Sal:** Do you know your multiples of 3?

**Junior:** Yes. They are 3, 6, 9, 12, 15, ...

**Junior:** If you add up the first forty of them you get 2460.