Quiz 30   Name:_____

You must show your work to get full credit.

1. Give a precise statement of the **division algorithm**.

2. Define a sequence by $a_0, a_2, a_2, \ldots$ by

$$a_{n+1} = \frac{4}{5}a_n + 10, \qquad a_0 = 20$$

(a) Compute a_1 and a_2.

$a_1 = $ _____ $a_2 = $ _____

(b) Prove $a_n < 50$ for all n.