

Practice I

1. What is the 100th term in the sequence

$$5, 8, 11, \dots?$$

What is the sum of the first 100 terms in this sequence? What is the sum of the first 25?

2. Convert from base ten to the given base:

a. $345 = ?_5$, b. $6739 = ?_{16}$

3. Do the arithmetic:

a. $321_5 \times 34_5 = ?_5$, b. $8T5E_{12} \times 43_{12} = ?_{12}$

4. A wheel of fortune has all the numbers from 0 to 36, in order, going around its edge. The wheel is spun, and as each number goes by, a clicker clicks once. The wheel started at number 5, and you hear 217 clicks before the wheel stops. On what number did the wheel stop?

5. What is the 1st digit base 7 of 3^{50} , 3^{49} , 3^{48} ?