Sheet #1130:

PRACTICE FOR SEQUENCES

NAME: KEY

Period: _____

1. 2, 7, 12, 17, 22, ...

a, WRITE AN EXPLICIT RULE FOR a_n (NOT USING a_{n-1}).

$d = 5$ $\boxed{a_n = 2 + (n-1)\cdot 5}$

$= -3 + 5n$

b, WHAT IS 21st ELEMENT?

$a_{21} = 2 + (20)\cdot 5 = \boxed{102}$

2. WRITE A SEQUENCE WITH (RULE FOR A GEMETRIC)

$a_1 = 9, \quad r = 1/2$

a, $\boxed{a_n = 9 \cdot \left(\frac{1}{3}\right)^{n-1}} = 27\left(\frac{1}{3}\right)^n$

b, RECURSIVE: $\boxed{\begin{cases} a_1 = 9 \\ a_n = a_{n-1} \cdot \frac{1}{3} \end{cases}}$

c, $a_4 = 9\cdot\left(\frac{1}{3}\right)^3 = \boxed{\frac{1}{3}}$

3. FIND THE FIRST 4 ELEMENTS OF

$a_1 = 3$

$a_{n+1} = a_n + 2$

$a_1 = \boxed{3}$

$a_2 = 3 + 2 = \boxed{5}$

$a_3 = 5 + 2 = \boxed{7}$

$a_4 = 7 + 2 = \boxed{9}$