

Common ratio = $\frac{a_2}{a_1}$

Recursive

Explicit:

$a_1 = \underline{\hspace{2cm}}$
 $a_n = a_{n-1} \cdot r$

$a_n = a_1 (r)^{n-1}$

Ex 4

a. 2, 8, 32, 128 yes; 4; 512

b. 1, 4, 9, 16, 25 no

c. 81, 27, 9, 3, yes; $\frac{1}{3}$; 1
 $\frac{27}{81}$

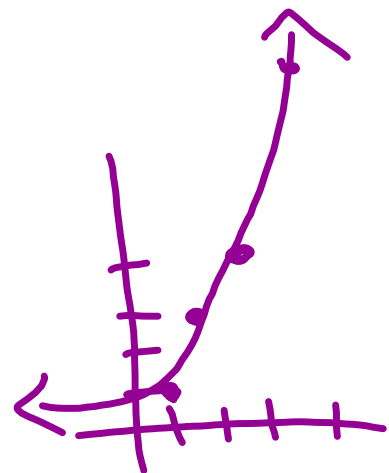
d. -5, 15, -45, 135, -405...

$\frac{15}{-5} = -3$ yes; -3, 1215

Ex 5

of terms
n

x	y
1	1
2	2
3	4
4	9



a. 2, 12, 72, 432

$$a_1 = 2 \quad r = \frac{12}{2} = 6$$

Rec.

$$a_1 = 2$$

$$a_n = a_{n-1} \cdot 6$$

Exp.

$$a_n = 2(6)^{n-1}$$

b. -5, -15, -45, -135

$$a_1 = -5 \quad r = 3 \cdot \frac{-15}{-5}$$

R:

$$a_1 = -5$$

$$a_n = a_{n-1} \cdot 3$$

E:

$$a_n = -5(3)^{n-1}$$

c. 80, 40, 20, 10, 5

$$a_1 = 80 \quad r = \frac{40}{80} = \frac{1}{2}$$

$$a_1 = 80$$

$$a_n = a_{n-1} \cdot \frac{1}{2}$$

Exp.

$$a_n = 80\left(\frac{1}{2}\right)^{n-1}$$

10th ?

$$\frac{5}{32} = .15625$$