

Name: _____ Date: 11/10/25

Session 13

1. Find the first 5 terms of the sequence.
Determine whether or not the sequence is arithmetic.
If it is, find the "d" value.

a) $a_n = 8 + 13n$

b) $a_n = \frac{1}{n+1}$

2. Find the n th term of the sequence, then find the 20th term

a) $a_1 = 2$ and $d = 3$

b) $-6, -4, -2$

3. Find a_1 and r for the following geometric sequence

$$3, 6, 12, 24, 48, \dots$$

formulas to remember:

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

$$\frac{a_2}{a_1} = r$$

4. Find the partial sum S_n for the geometric sequence with $a_1 = 2$ and $r = 3$

$$S_n = \frac{a_1(1-r^n)}{1-r}$$

$$\frac{a_2}{a_1} = r$$

4. Find the sum of the following infinite geometric sequence

$$14, 7, 7/2, 7/4, \dots$$

Infinite geometric sequences
Equation

$$S = \frac{a_1}{1-r}$$

$$\frac{a_n}{a_1} = r$$

, using a table

5. Parametric equations: graph the following parametric equations, then eliminate the parameter to find one equation

$$x = t + 1$$

$$y = \frac{t}{t+1}$$

6. Find the parametric equations, given a
Slope of $(1/2)$ passing through $(4, -1)$