

know $S_5 = \frac{u_1(1-r^5)}{1-r} = \underline{3798}$ $S_7 =$

$$S_{\infty} = \frac{u_1}{1-r} = 4374 \quad \begin{array}{l} u_1 = \\ r = \end{array}$$

$$(1-r^5) \frac{u_1}{1-r} = \underline{4374(1-r^5)}$$

$$\frac{4374(1-r^5)}{4374} = \frac{3798}{4374}$$

$$\frac{u_1}{1-\frac{2}{3}} = 4374$$

$$\frac{u_1}{\frac{1}{3}} = 4374$$

$$u_1 = 1458$$

$$1 - r^5 = \frac{3798}{4374} - 1$$

$$r^5 = -\frac{3798}{4374} + 1$$

$$r = \frac{2}{3}$$

Cornell Notes



Topic/Objective:

6.8 Applications of Geometric + Arithmetic patterns

Name:

Class/Period:

4

Date:

5/1/17

Essential Question:

What are some of the applications of sequences & series?

Questions:

Notes:

① Compound Interest.

$$A = P \left(1 + \frac{r}{n}\right)^{nt}$$

P = Principal

r = Interest rate

n = # times compounded annually

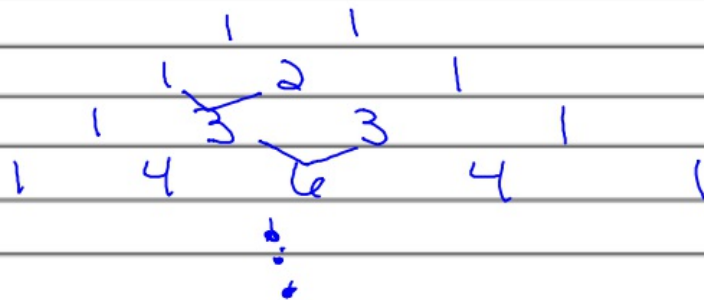
t = # of years

Ex) In a geometric sequence $v_1 = 6, r = 1.5$
In an arith. seq. $u_1 = 75$ and $d = 100$
after how many terms will the
Sum of the geo seq > Sum arith?

6.8 p. 82
1-4

$$S_{Geo} \frac{6(1.5^n - 1)}{1.5 - 1} > \frac{n}{2} (2(75) + (n-1)100)$$

6.9 Pascal's Triangle



to be continued...

