

Write the recursive formula

ratio $\frac{192}{80}$ $\frac{460.8}{192}$

1) 80, 192, 460.8, 1105.9, 2654.2, ...

$$u_1 = 80$$

$$u_n = 2.4 u_{n-1}, n \geq 2$$

$$u_1 =$$

$$u_n =$$

$n \geq$

2) 62.4, 48.7, 35, 21.3, 7.6, ...

$$\text{diff} = -13.7$$

$$u_1 = 62.4$$

$$u_n = u_{n-1} - 13.7, n \geq 2$$

3) currently walking 5000 steps a day - want to increase by 4% each week

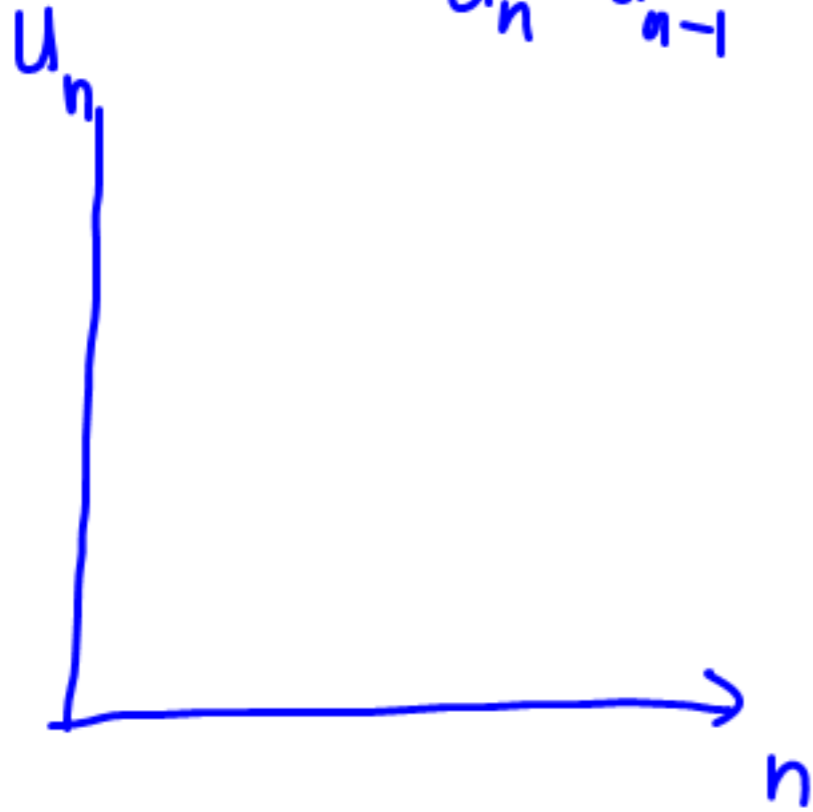
$$u_0 = 5000$$

$$u_n = 1.04 u_{n-1}, n \geq 1$$

$n = \#$ of weeks.
mult by 1.04
(1 + 0.04)

$$u_1 = 62.4$$

$$u_n = u_{n-1} - 13.7 \quad n \geq 2$$



1) $80, 192, 460.8, 1105.9, 2654.2, \dots$
 $u_1 = 80$

$\Rightarrow u_n = u_{n-1} (2.4), n \geq 2$ $u_n = 2.4 u_{n-1}$

2) $62.4, 48.7, 35, 21.3, 7.6, \dots$
 $u_1 = 62.4$

$u_n = u_{n-1} - 13.7, n \geq 2$

3) currently walking 5000 steps a day - want to increase by 4% each week

$u_n = -13.7 + u_{n-1}$

$n = \# \text{ weeks}$
 $u_n = u_{n-1} + (u_{n-1})(0.04)$

$u_0 = 5000$

$u_n = u_{n-1} (1.04), n \geq 1$ $u_{n-1} (1 + 0.04)$

$5000, 5200, 5408$

after 12 wk, how many steps

u_{12}

Write the recursive formula

1) 80, 192, 460.8, 1105.9, 2654.2, ...

$$\begin{cases} u_1 = 80 \\ u_n = u_{n-1} \cdot 2.4, n \geq 2 \end{cases} \quad \begin{cases} u_0 = 80 \\ u_n = u_{n-1} \cdot 2.4, n \geq 1 \end{cases}$$

2) 62.4, 48.7, 35, 21.3, 7.6, ...

$$u_1 = 62.4$$

$$u_n = u_{n-1} - 13.7, n \geq 2$$

3) currently walking 5000 steps a day - want to increase by 4% each week $\Rightarrow n = \# \text{ week}$

$$\begin{aligned} u_0 &= 5000 \\ u_n &= u_{n-1} (1 + 0.04) \end{aligned}$$