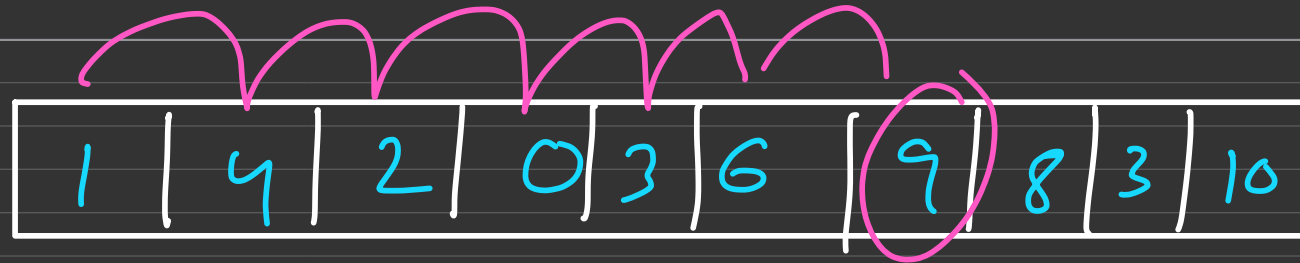




# Linear Search



1	4	2	0	3	6	9	8	3	10
---	---	---	---	---	---	---	---	---	----

$O(n)$

9

11

# Binary search

↓ S  
|  
e

1	4	6	10	15	20	22	30	36	70
0	1	2	3	4	5	6	7	8	9



36

37

$$\frac{5+9}{2} = 7$$

$$\frac{8+9}{2} = 8$$

Linear

$n$

↓

$n-1$

↓

$n-2$

↓

$n-3$

⋮

1

$O(n)$

Binary

$n$

↓

$\frac{n}{2}$

↓

$\frac{n}{4}$

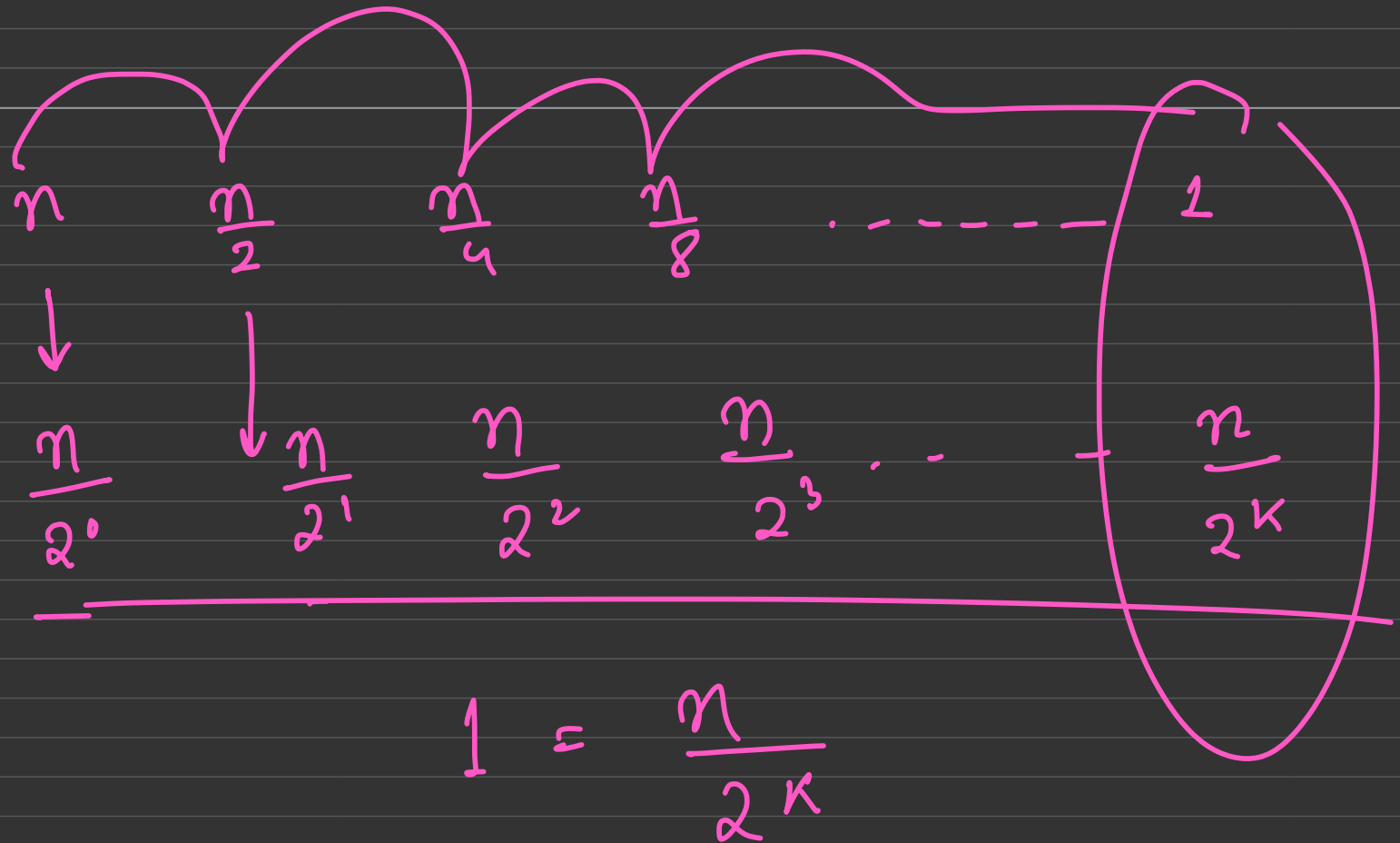
↓

$\frac{n}{8}$

⋮

1

$O(\log n)$



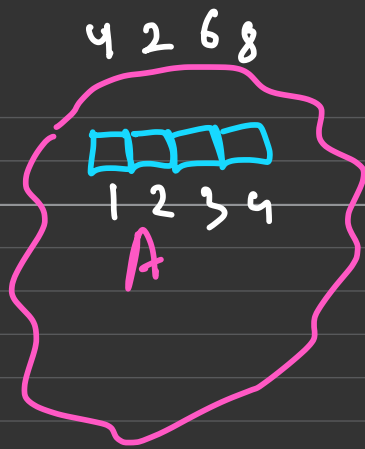
$$2^k = n$$

$$\log 2^k = \log n$$

$$k \log 2 = \log n$$

$$k = \frac{\log n}{\log 2}$$

$$k = \log_2 n$$

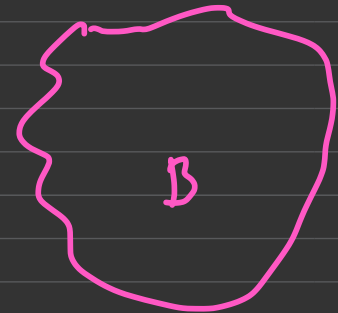


C 5

14

D Days  
4

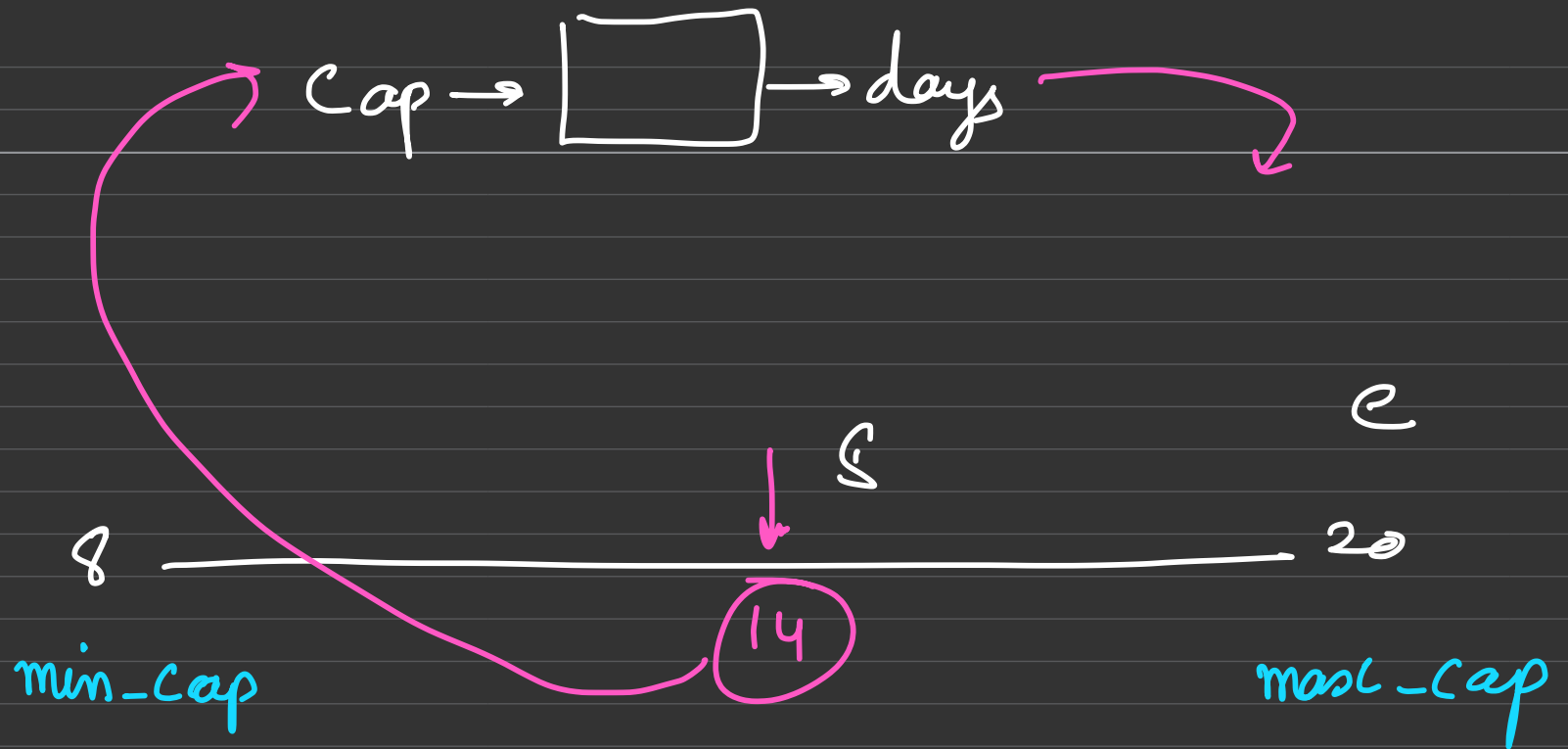
14



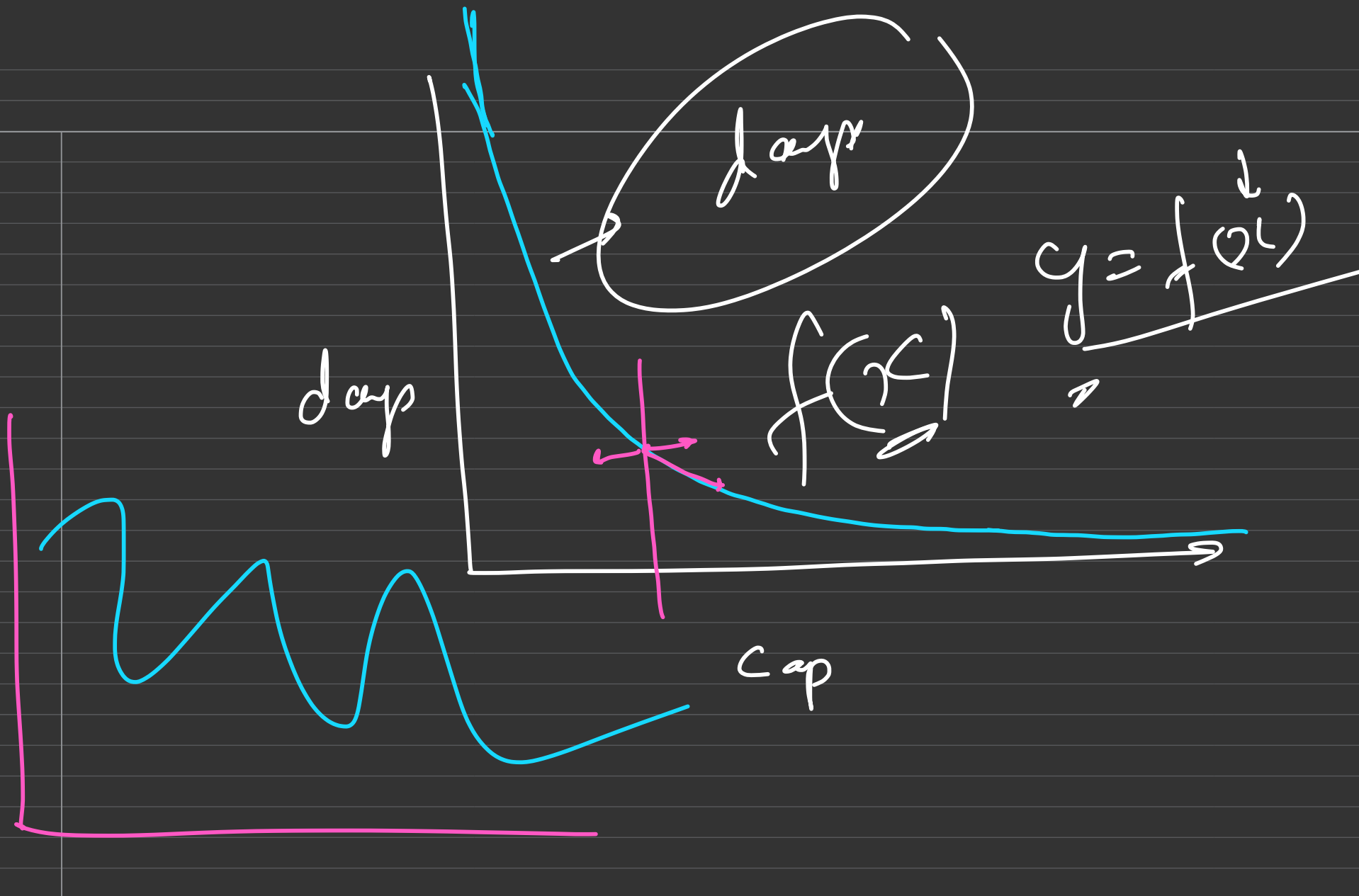
$$\begin{aligned} \text{min\_cap} &= \text{max\_ele} \\ \text{max\_cap} &= \text{sum\_de.} \end{aligned}$$

$$\frac{20}{4} = 5$$

$$\frac{8 \quad \quad \quad 20}{\quad \quad \quad}$$



required-days > given-days

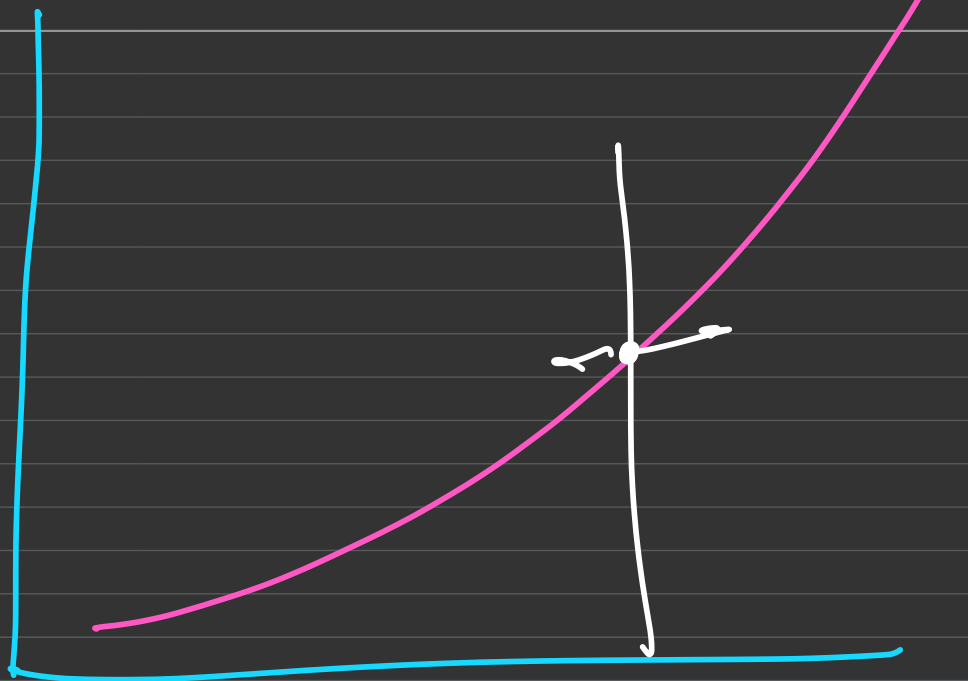


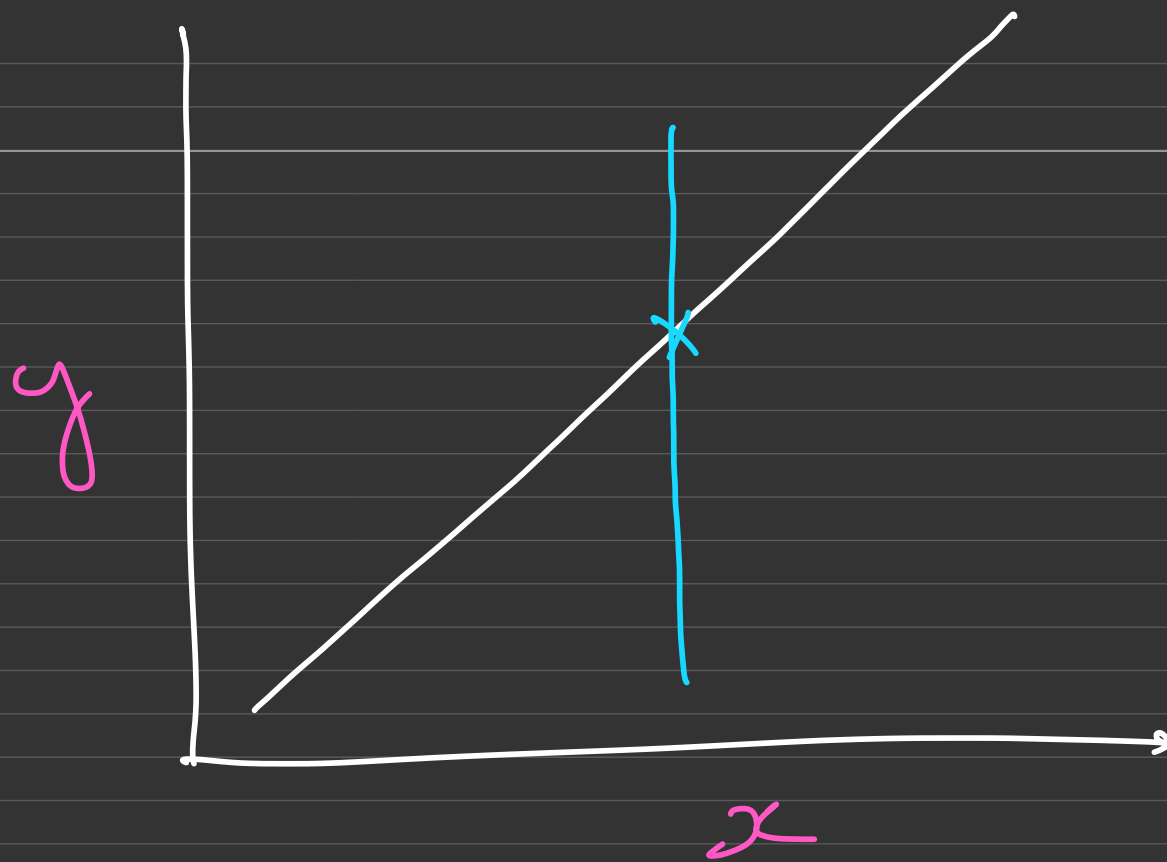


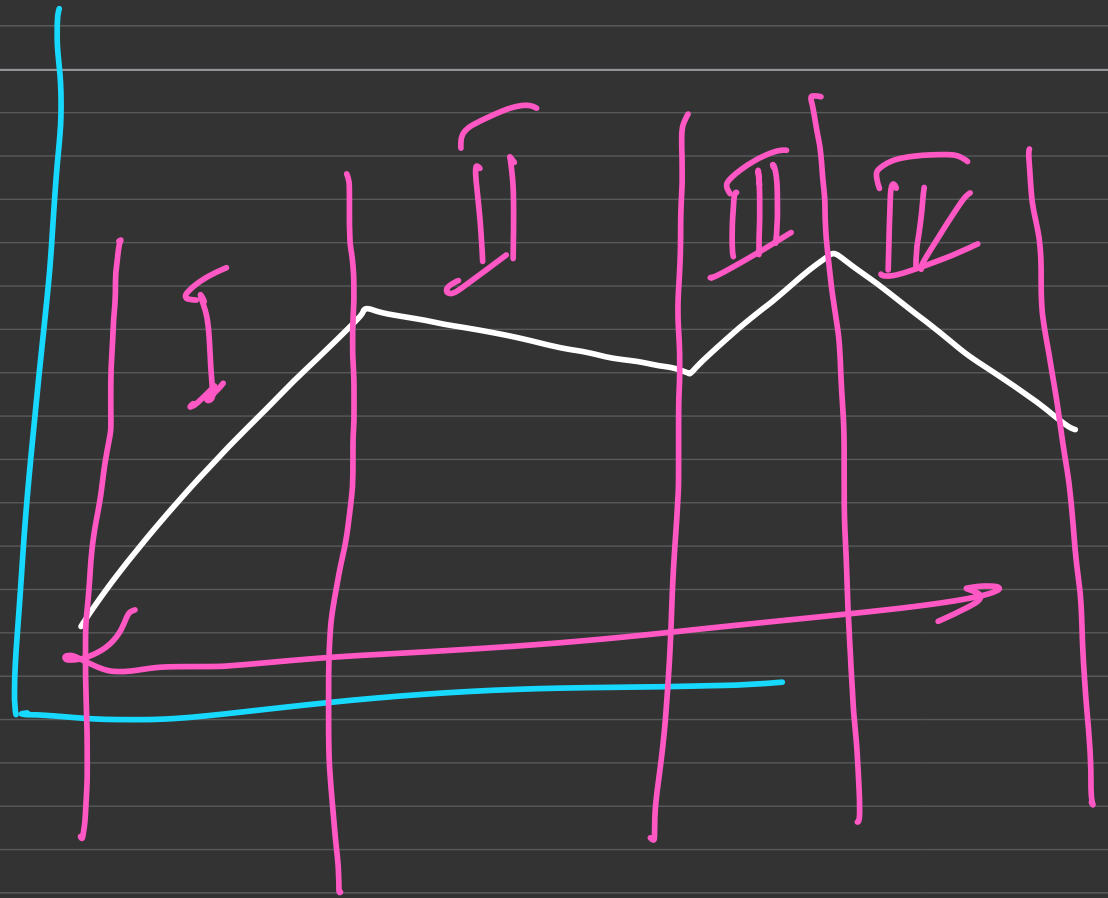
$\gamma$

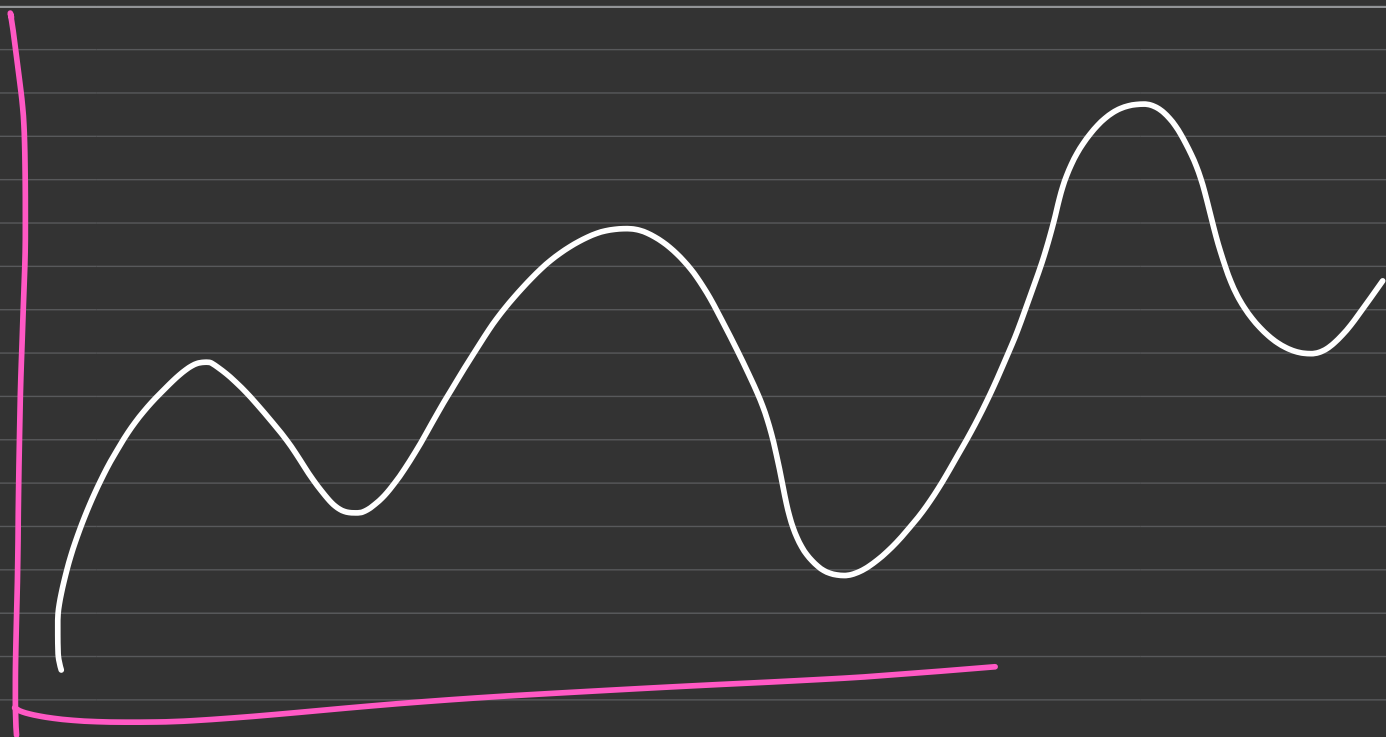
$n$

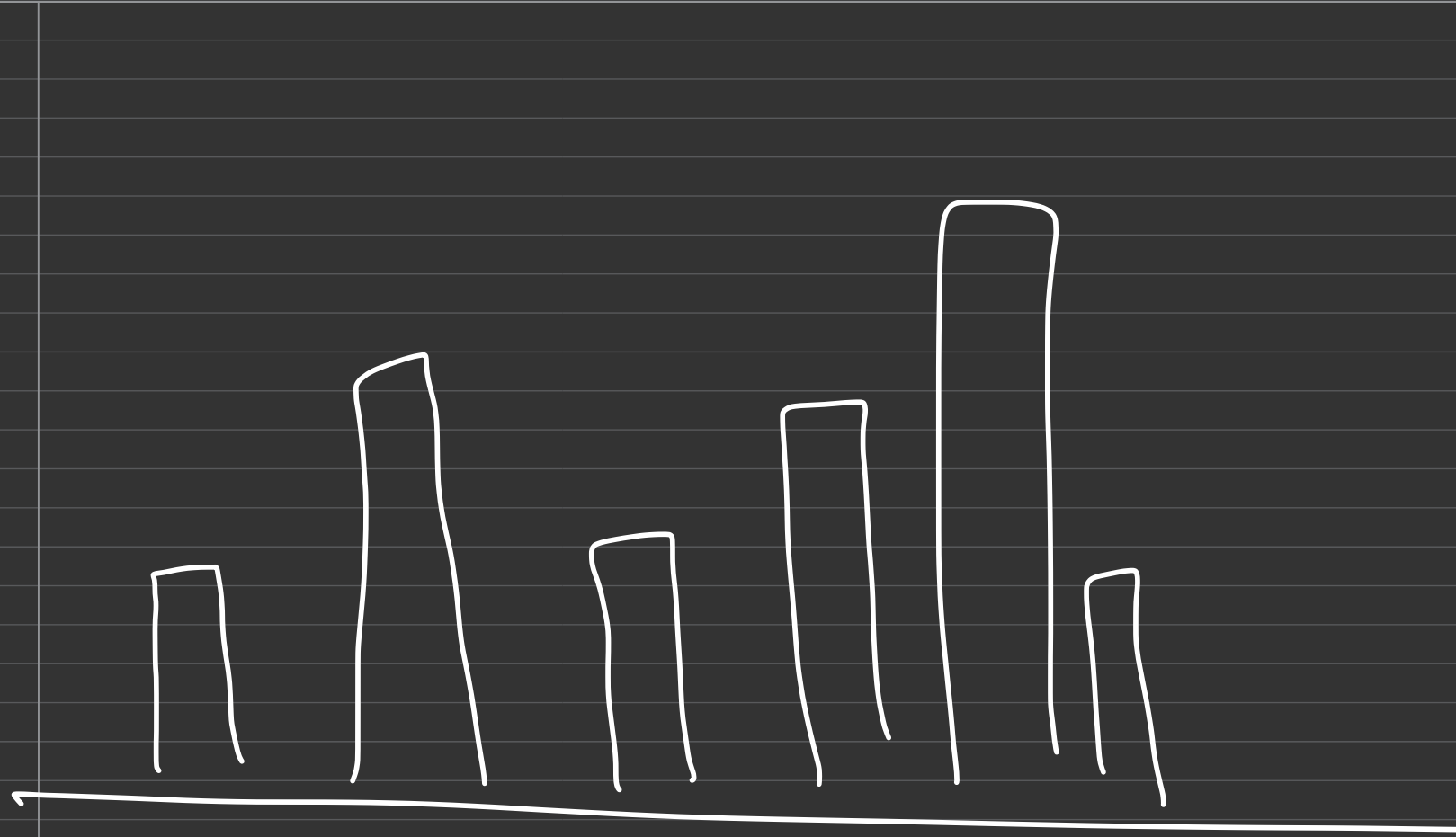
$n \times \log 2$

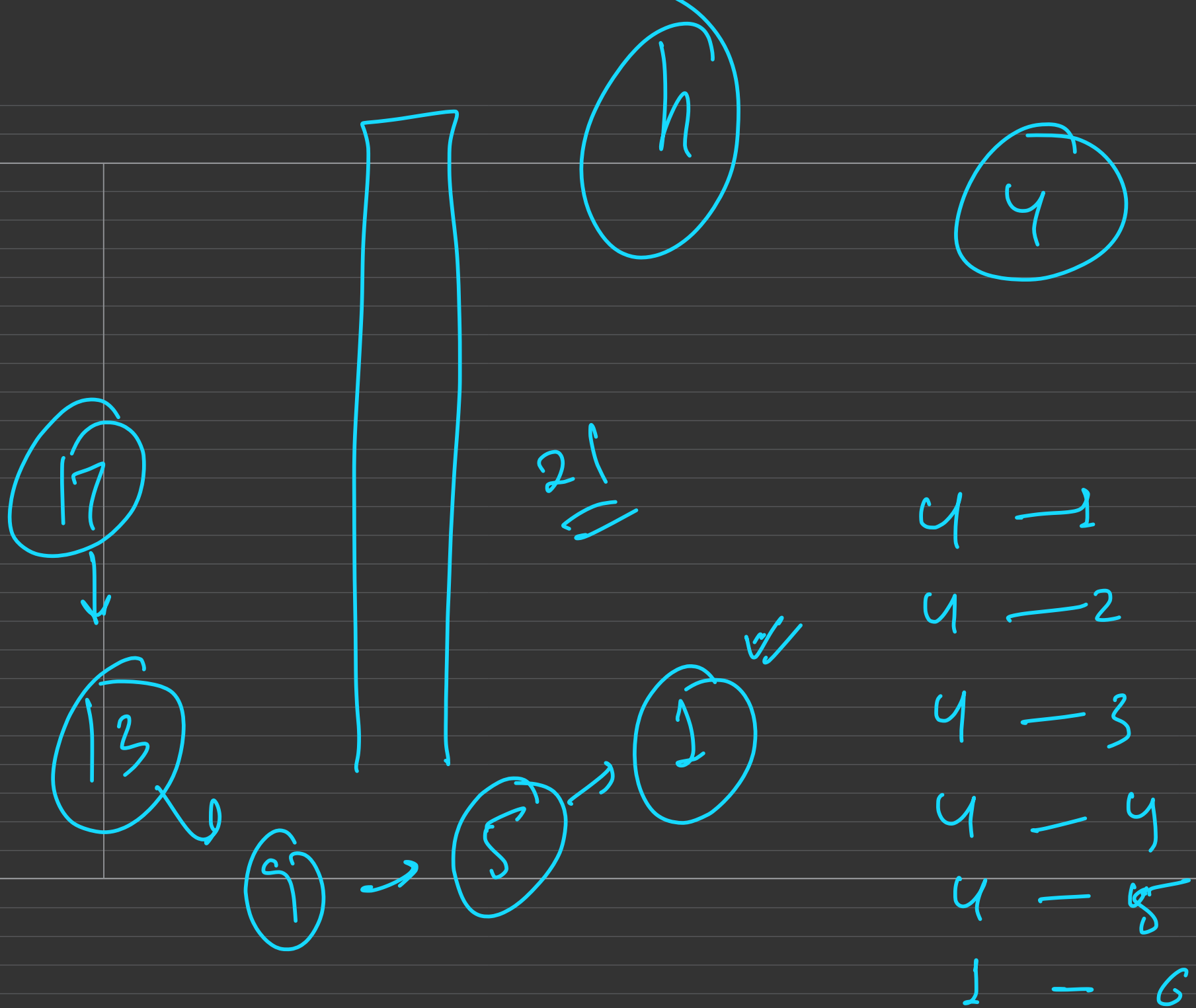


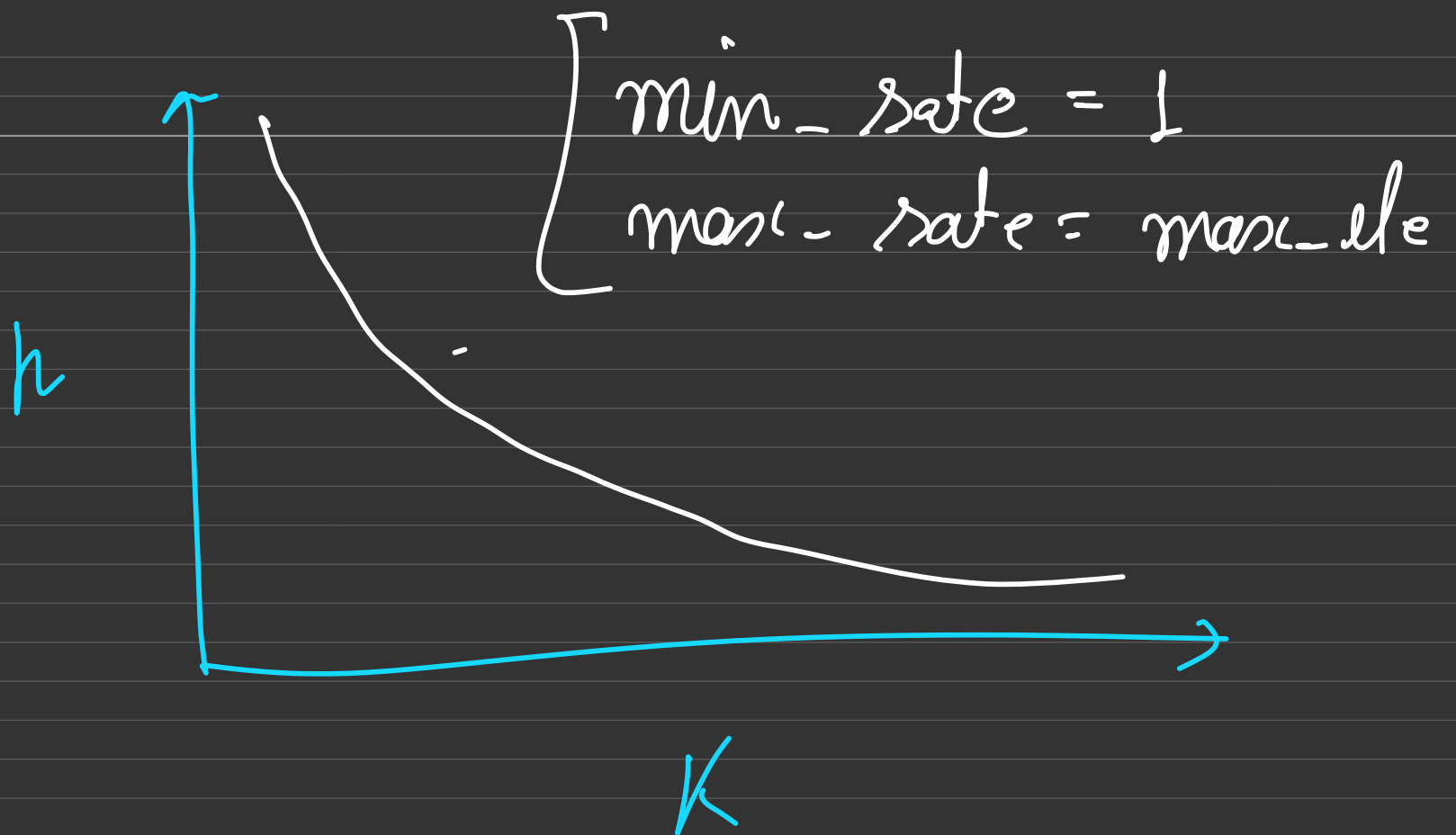


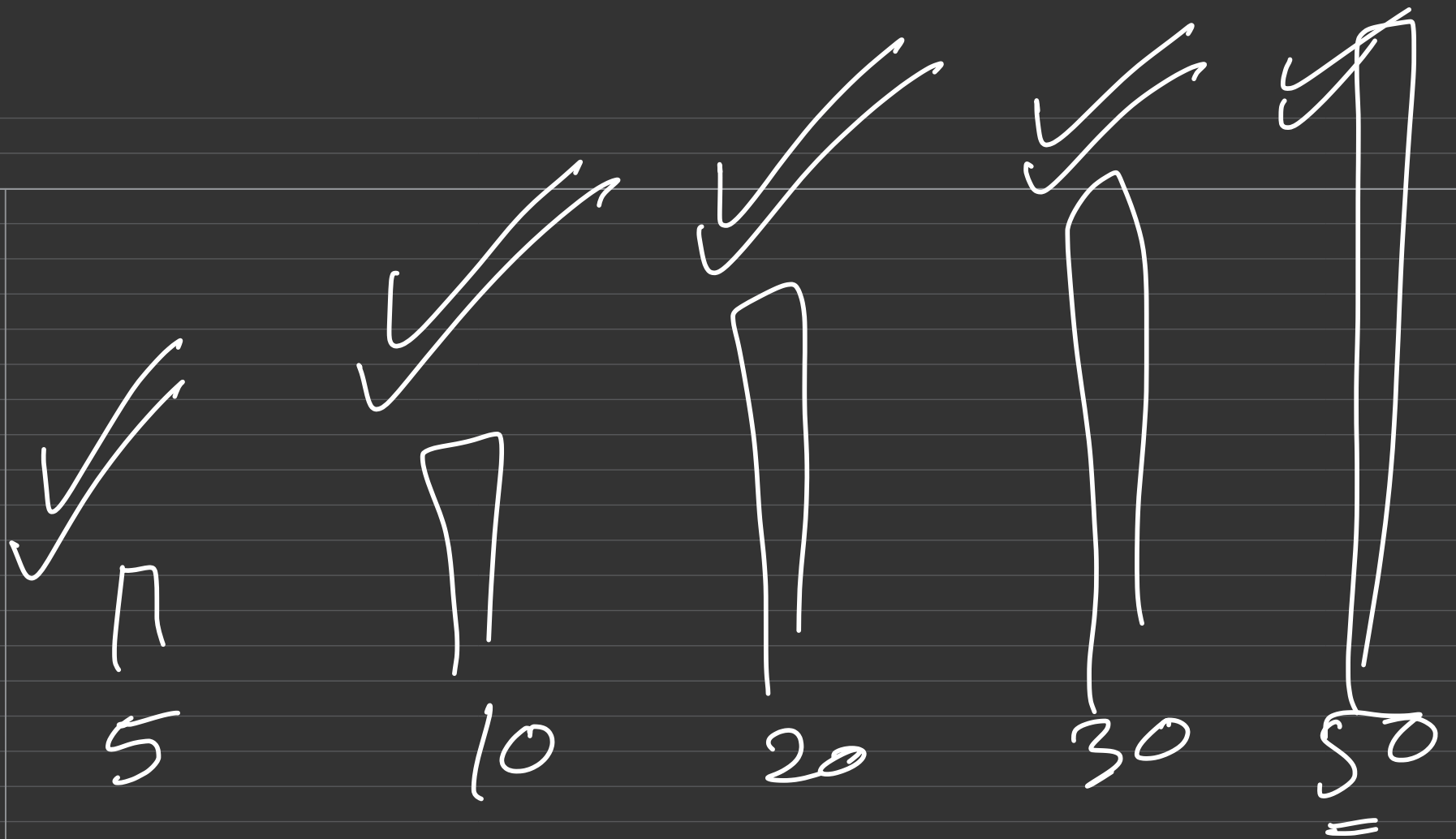












50

49

51

100



