GATE-2023 CRASH COURSE

GENERAL APTITUDE

NUMBERS

Lecture No.15

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NUMBER (VARIOUS CALCULATIONS)

$\frac{0}{9} = 0$

$\frac{15}{3} = 5$

$\frac{8}{0} = \text{undefined}$

$\frac{16}{2} = 8$

$9\overline{)0}\,(0$
0

$3\overline{)15}\,(5$
15

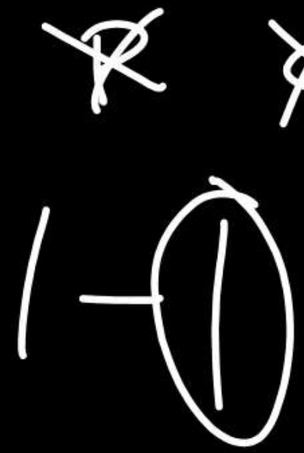
$2\overline{)16}\,(8$
16

$0\overline{)8}\,($

Basic

- Natural Number ✓ 1, 2, 3, 4 - - - ∞
- Whole Number ✓ 0, 1, 2, 3, - - - - ∞
- Even Number
- ODD Number
- Integers
- Prime Numbers Number
- Composite Numbers {Non-Prime}
- Rational & Irrational

factors



Multiples

6 → 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66
72, 78, 84, 90, 96, 102, 108, ---- ∞

Rational

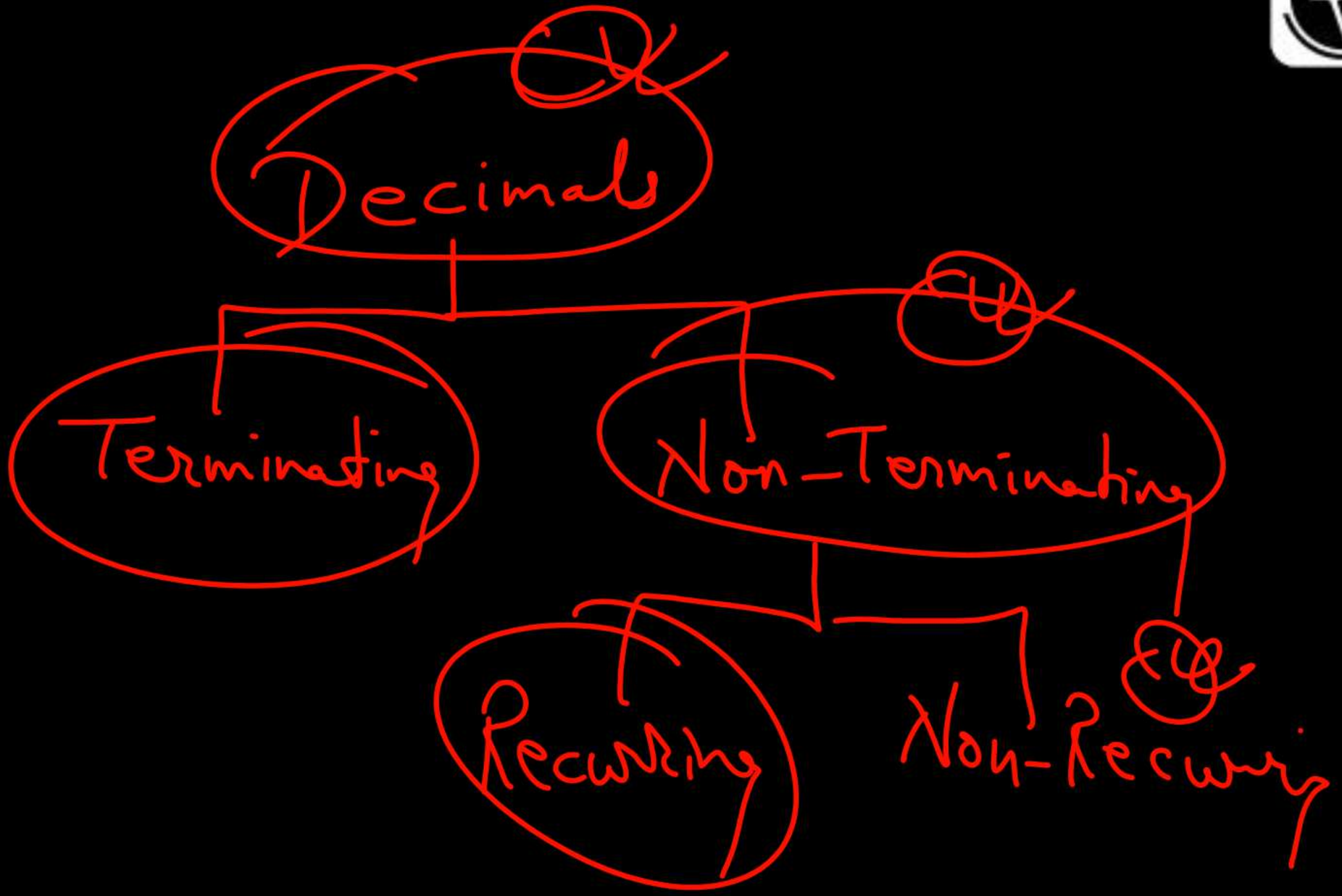
$42.\overline{4} = \frac{382}{9}$

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

$-8 = \frac{-8}{1}$

$3.8 = \frac{38}{10}$

$0 = \frac{0}{-10}$

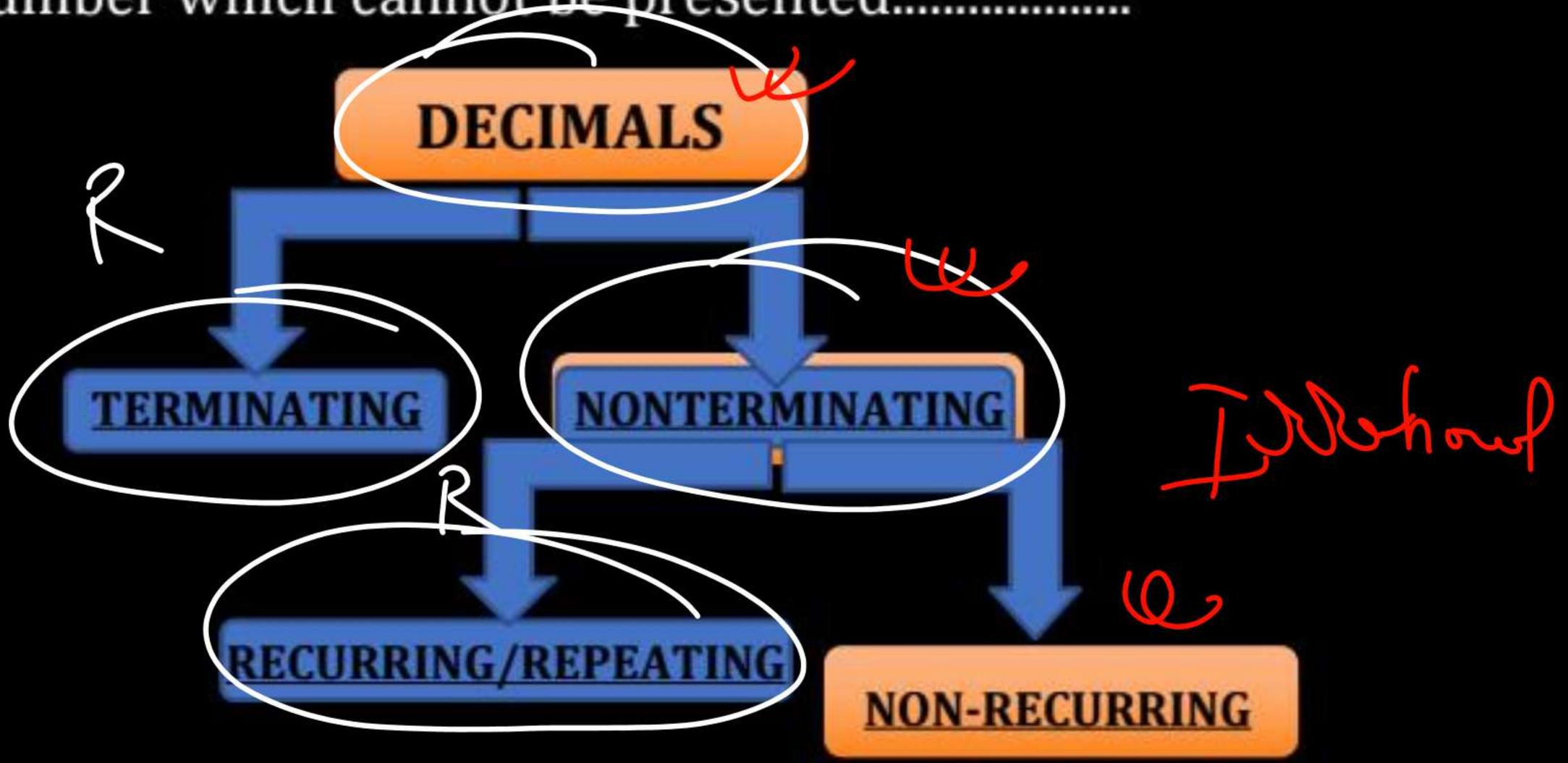

Decimals
Terminating
Non-Terminating
Recurring
Non-Recurring

Irrational

$\sqrt{2} = 1.4142135625979734928$ _ _ _ _ _ _ _

IRRATIONAL

- A number which cannot be presented.....



Irrational

π

Rational

$\frac{22}{7}$ OR 3.14

$2\pi r$

$7\overline{)22(3.142857}$

21

10

7

30

28

20

14

60

56

40

35

50

IRRATIONAL $\sqrt{2}$

= 1.414213562373095.....

Square root, Cube root {Cannot be found perfectly}

Rational

22/7 = 3.142857142857.....

π

Irr

Π = 3.141592653589793..... {approx.}

Brainstorming: 1

$1 - 2 + 3 - 4 + 5 \ldots\ldots\ldots\ldots 2022 = ?$

-1 -1 -1

-1011

Brainstorming: 2

$1! + 2! + 3! + \ldots\ldots\ldots\ldots\ldots\ldots 2022!$ = Ans

3) Ans

R = ?

120
$\times 6$
720
$\times 7$
5040

$1! = 1$
$2! = 2$
$3! = 6$
$4! = 24$

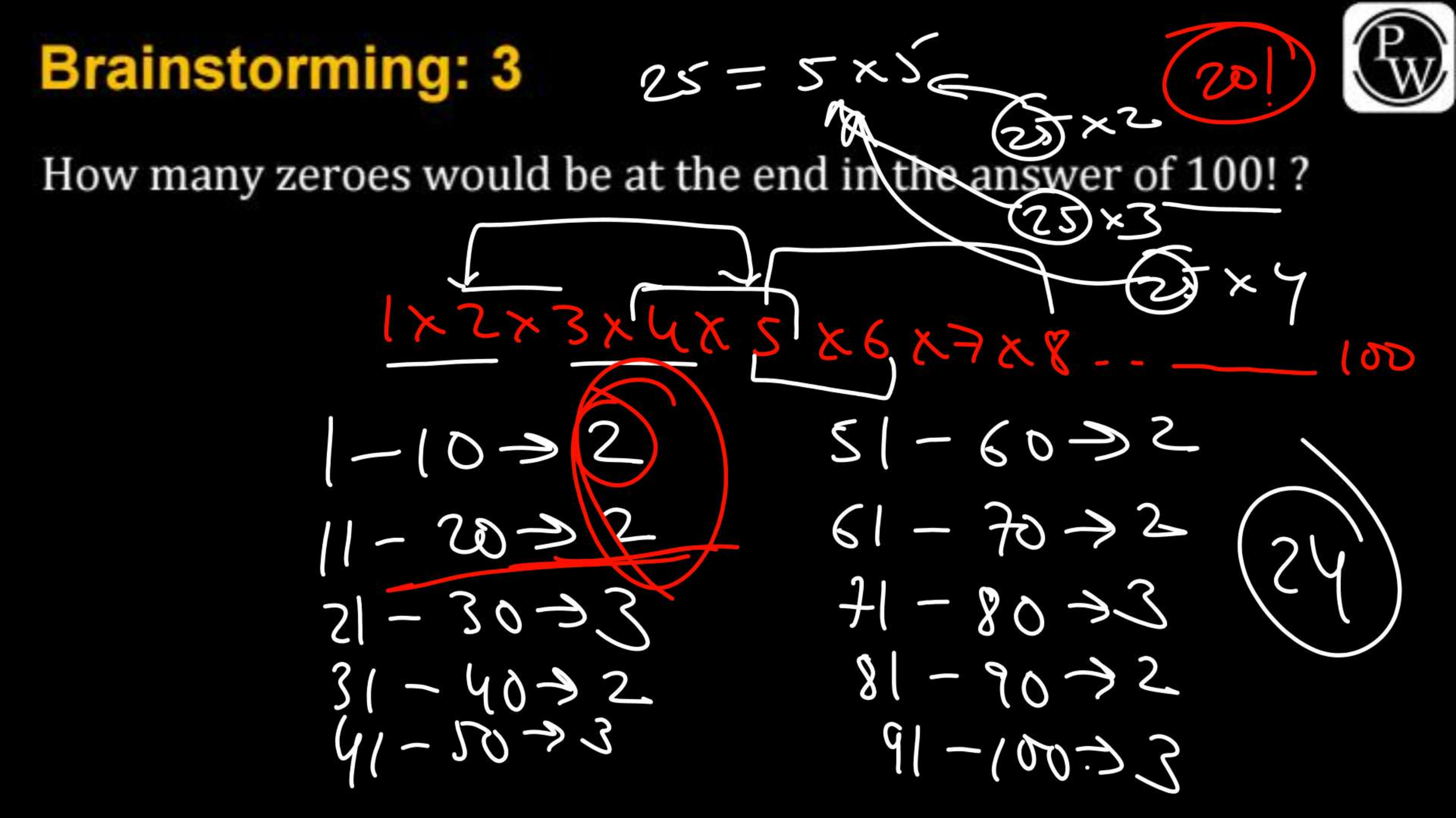
$5! = 120$

$\|3\|$

1) 1
2) 2
3) 0
4) Can't be determined

Brainstorming: 3

How many zeroes would be at the end in the answer of 100! ?



$$\frac{100}{5} = 20$$

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

$$\frac{4}{5} = 0$$

$$24$$

Brainstorming: 4

50! can be denoted maximum 7?

10!

$\frac{50}{7} = 7$

$\frac{7}{7} = 1$

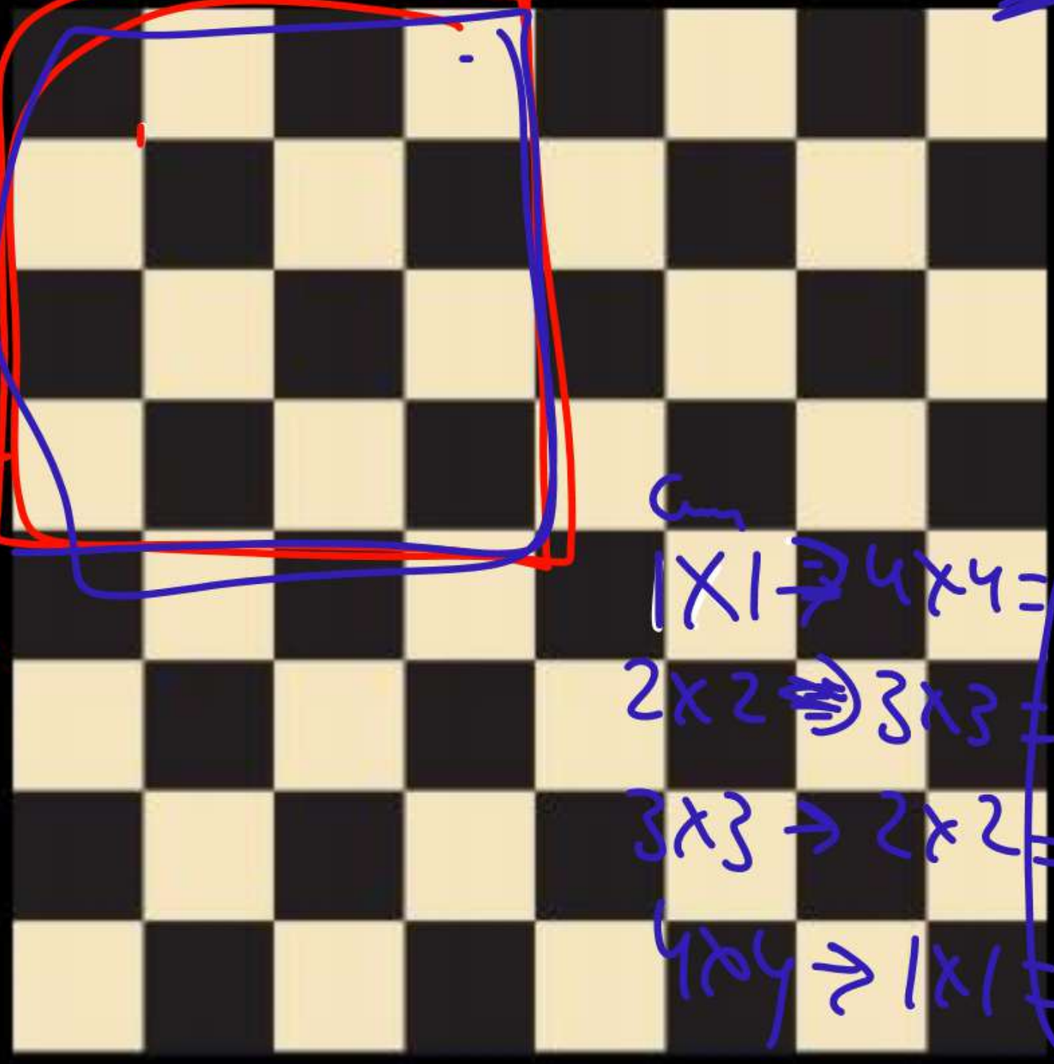
$\frac{1}{7} = 0$ R 1

$50! \rightarrow 7^{8}$

Brainstorming: 5

How many squares are there in a chessboard ?

How many squares are there in a chessboard ?



Size	No
1×1	8×8 = 64
2×2	7×7 = 49
3×3	6×6 = 36
4×4	5×5 = 25
5×5	4×4 = 16
6×6	3×3 = 9
7×7	2×2 = 4
8×8	1×1 = 1

Cum

1×1 → 4×4 = 16

2×2 → 3×3 = 9

3×3 → 2×2 = 4

4×4 → 1×1 = 1

30

8 CMS

204

thank you