

1. 1025 (1)

中真 ② 假 ③ 假

二. ① 假 ② 真

① 设  $n=k$  时  $1 \times 2 + 2 \times 3 + 3 \times 4 + \dots + n(n+1) = \frac{1}{3}n(n+1)(n+2)$  成立

② 设  $n=k+1$  时  $1 \times 2 + \dots + n(n+1) + (n+1)(n+2) = \frac{1}{3}n(n+1)(n+2) + (n+1)(n+2)$

$= \frac{1}{3}(n+1)(n+2)(n+3)$

$\therefore$  成立

③ 成立

④ 成立



⑤  $a \cap b, c, d$

$a \quad 1 \quad 1 \quad 1$

$b \quad 1 \quad 1 \quad 1$

$c \quad 1 \quad 1 \quad 1$

$d \quad 1 \quad 1 \quad 1$



#### 4. 中双射

12 都不是, A, B 中元素都来全部利用

13 单射 陪域为  $\{x, -x\}$

14 单射 B 中的 1 未出现

$$\text{Eg: } (5+10+15) = (1+2+3) + (4+6+8) + (9+12+14) + (16+18+20) + \dots$$

$$(5+10+15) + (5+10+15) = (1+2+3) + (4+6+8) + (9+12+14) + (16+18+20) + \dots$$

$$= (1+2+3) + (4+6+8) + (9+12+14) + (16+18+20) + \dots$$

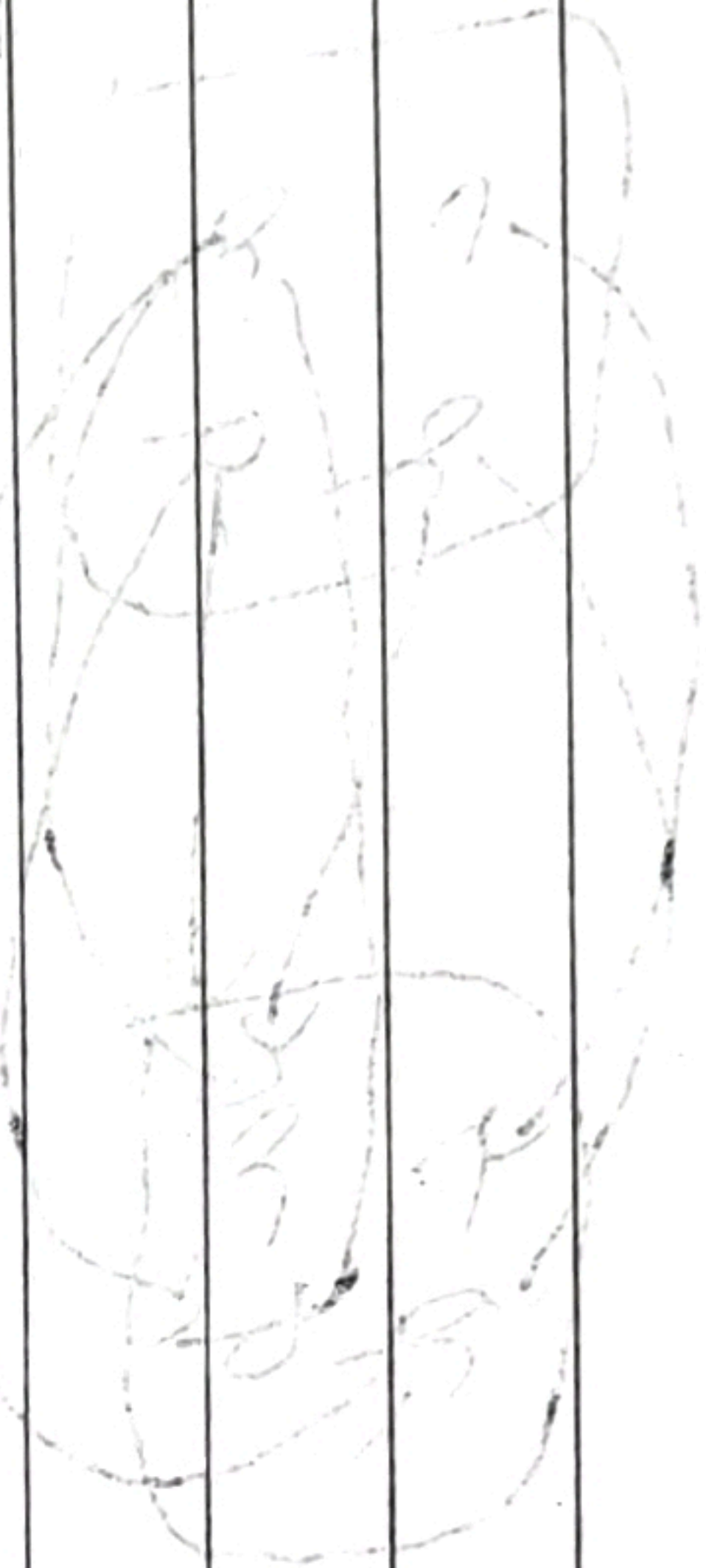
$$(1+2+3) + (4+6+8) + (9+12+14) + (16+18+20) + \dots$$

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