$$p = \frac{\exp(w \cdot \phi(x, y))}{\sum_{y'} \exp(w \cdot \phi(x, y'))}$$

$$L = \sum_i \log p(y_i | x_i; w)$$

$$\frac{\partial L}{\partial w_j} = \sum_i \left(\frac{1}{p} \cdot \right)$$

$$= \sum_i \left(\phi_j - \frac{\partial \left(\log \left(\sum_{y'} \exp(w \phi) \right) \right)}{\partial w_j} \right)$$

$$= \sum_i (\phi_j -$$

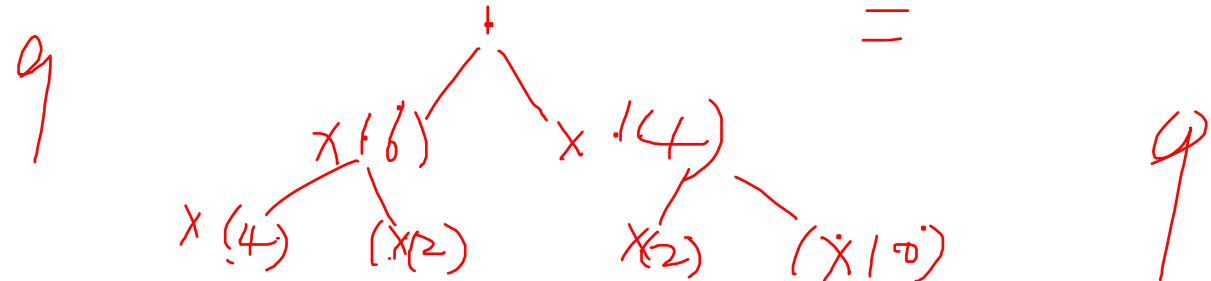
$$\frac{\log \sum_{y'} (\exp(w\phi'))}{\partial w_j}$$

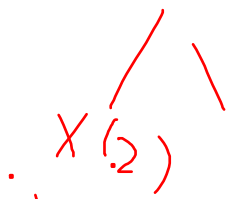
$$= \frac{\sum_{y'} \exp(w\phi) \cdot \phi_j}{\sum y' \exp(w\phi')}$$

$$= P \cdot \phi_j$$

```
static int x(int n)
 {
     if (n <= 3)
         return 1;
     else
         return x(n - 2) + x(n - 4) + 1;
 }
```

x(8) =





$X(8) = X(6) + X(4) + 1$

$= X(4) + X(2) + X(2) + X(0) + 1$

$+1 \qquad +1$

$= X(2) + X(0) + 1 + X(2) + 1$

$+ X(2) + X(0) + 1$

$5 + 4 = 9$

$I/\mu^5 = S \cdot id$

$N = \mu \oplus \mu^2 \oplus \cdots \oplus \mu^k$

证: $I([a,b]) = [I(a), b]$

$+ [a, I(b)]$

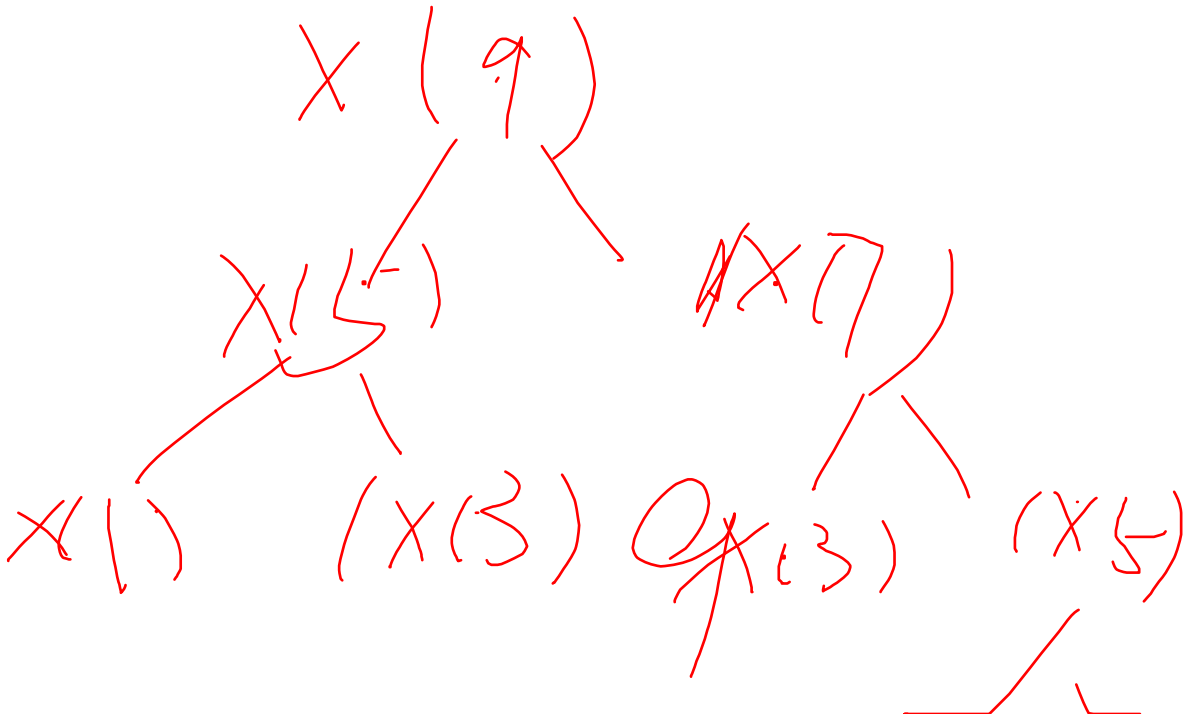
$a \in U^{a_1}$

$b \in U^{a_2}$

$a \in U^2$

$([U,U],U] \in U^3$

$[[U,U],[U,U]]$



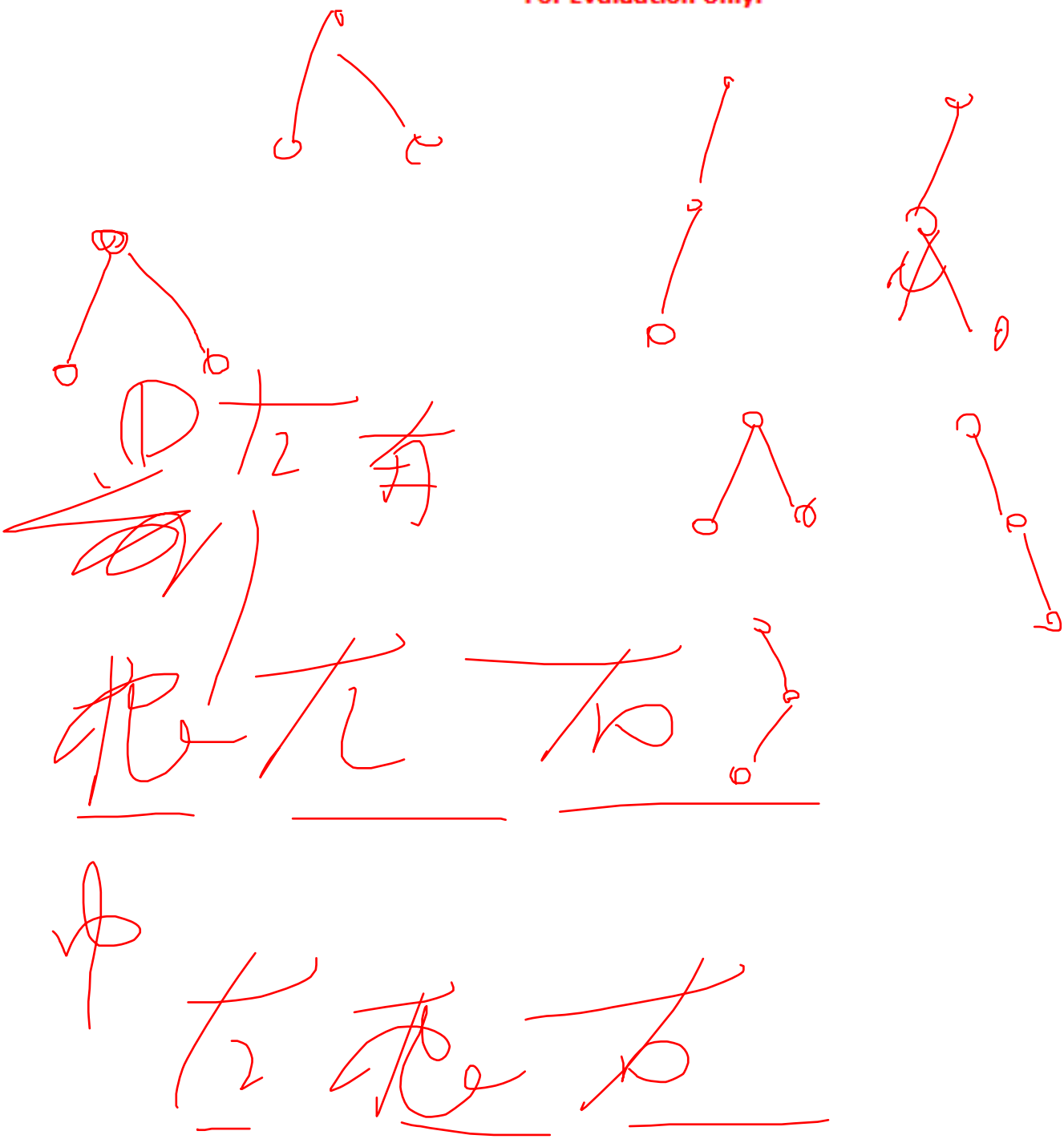
$$g = c'(g) \oplus V$$

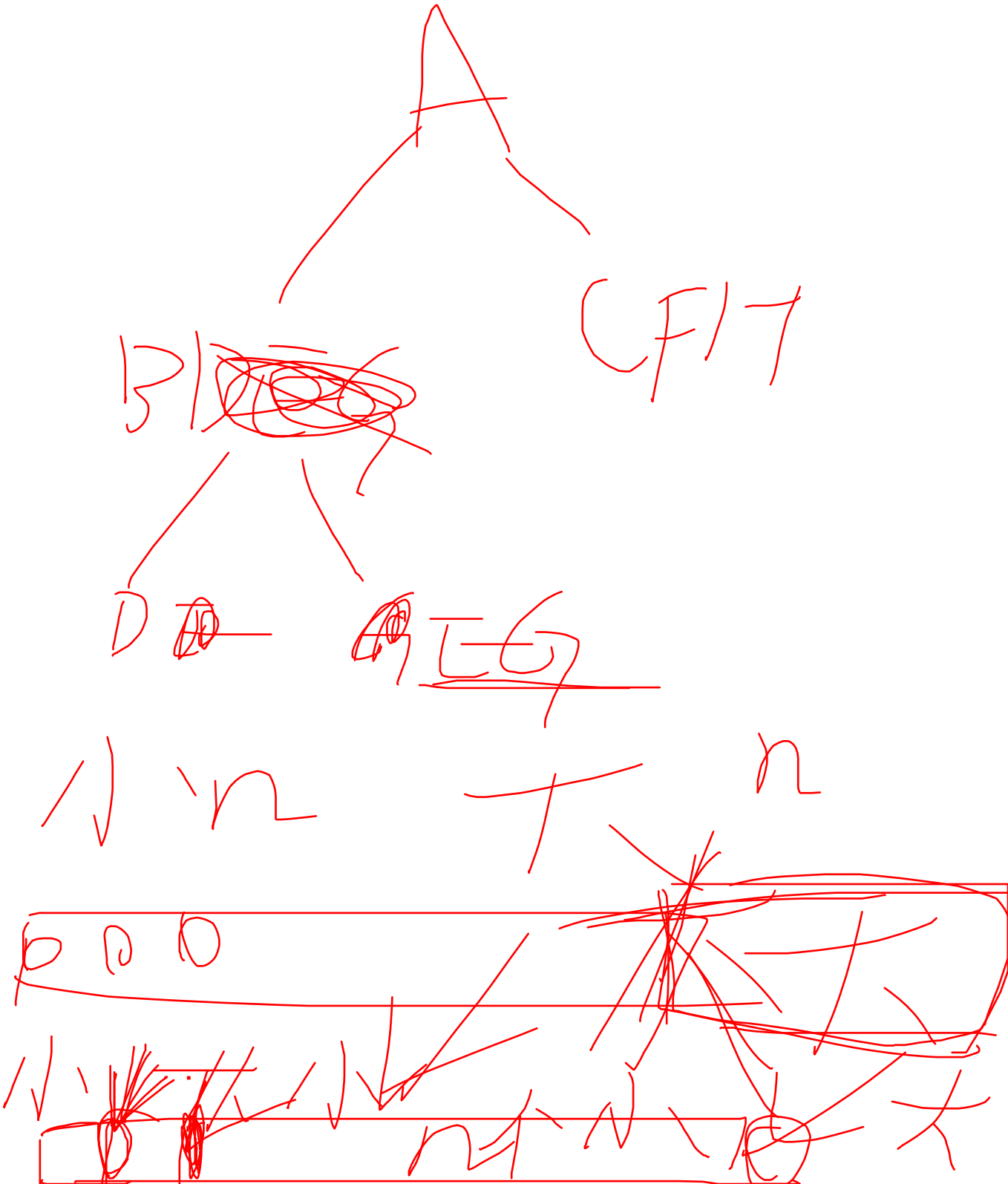
$$Z(g) = c'(g) \oplus U$$

$$g = c'(g) \oplus U \oplus W$$

$$h \triangleq c'(g) \oplus W$$

$$Z(h) = c'(g)$$





$n! \times (n) \times (n-1)$

$n = 2$ ✓

$n = 4$

AB CD

(A) 6

(B) 2

(C) 12

(D) $5! / 2! = 3 \times 4 \times 5$

$= 60$

1000 = 1000

= 499 + 500

= 333 + 333 + 334

= 5 + 1

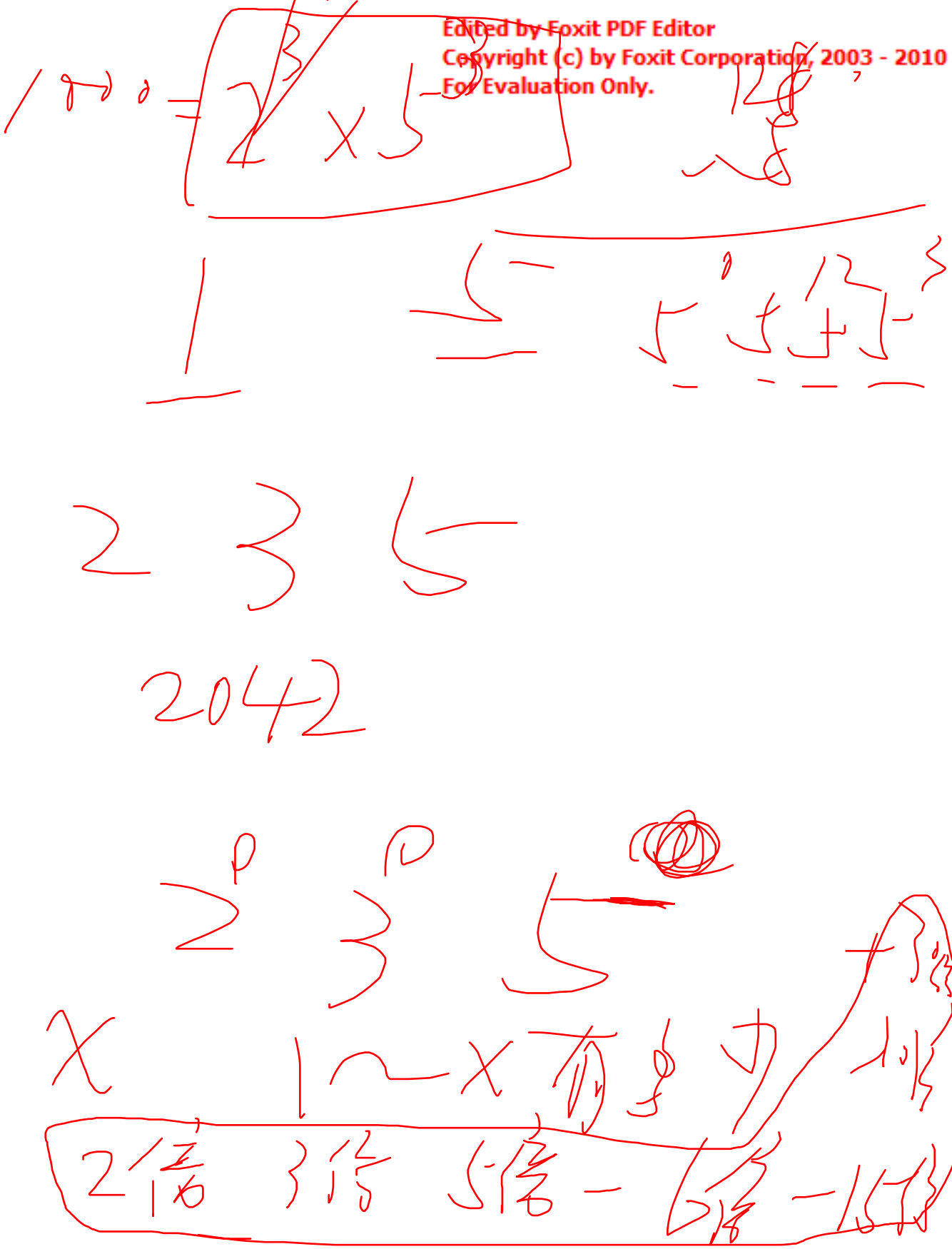
= 13

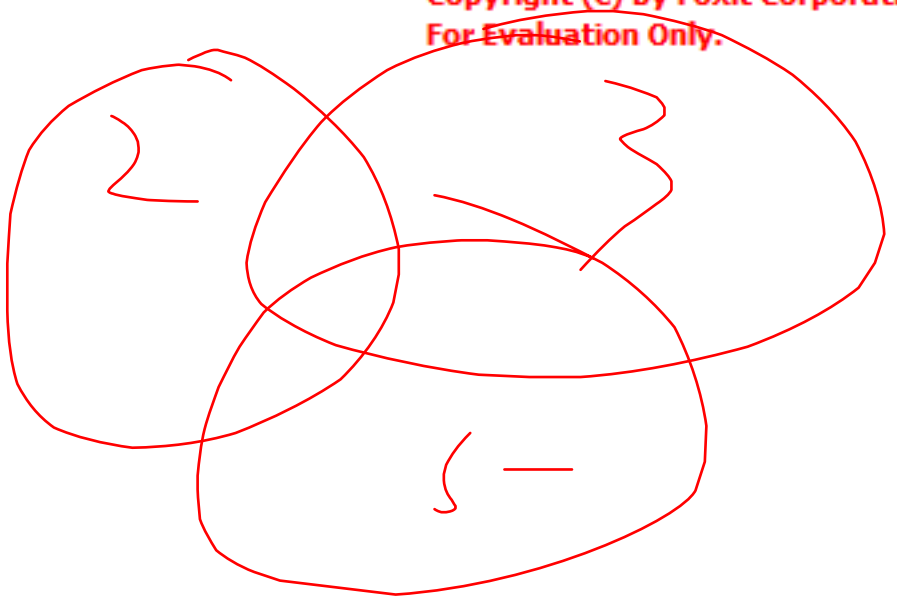
=

2 | 1000 =

2 | 500 = 5 × 5 × 4

= 4 × 5





2040 本

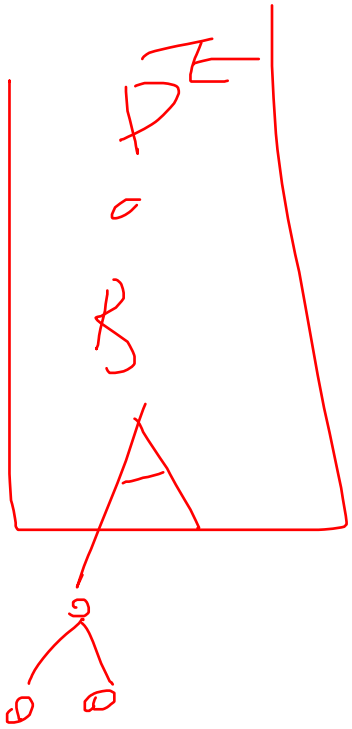
1020 + 680 + 408

= 340 + 136 + 204 + 68

= 1496 2040

2042 2043 2044

2041



$1+2+4$

$2^0+2^1+\cdots+2^{n}=360$

$2^{n+1}-1=360$

$2^{n+1}=361$

$n+1=9$

$n=8$

1805

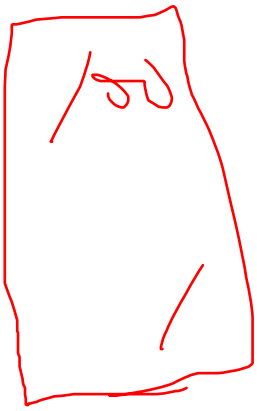
$2^3=8$

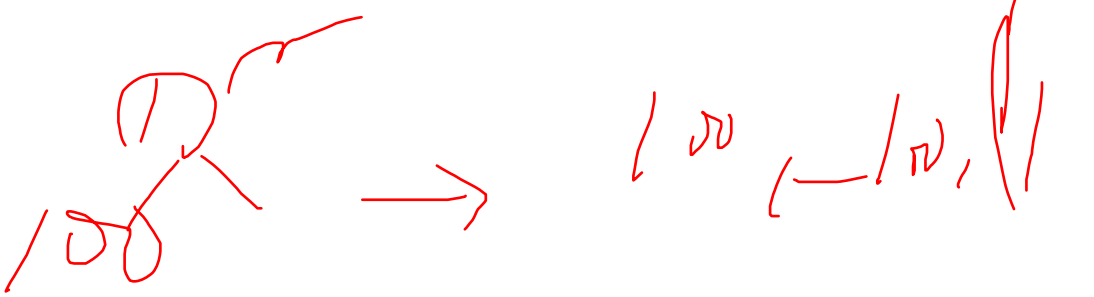
$2^6 = 64$

$2^7 = 128$

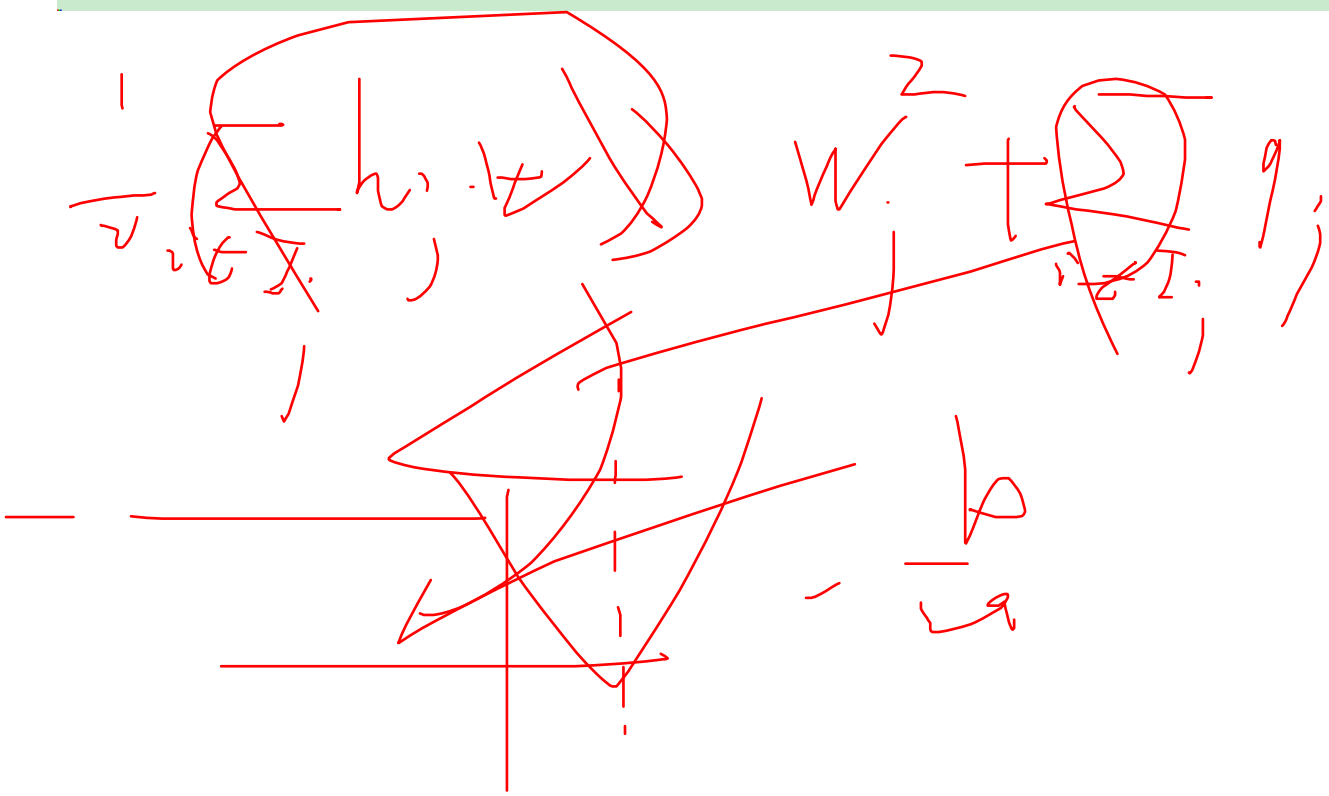
$2^8 = 256$

$2^9 = 400$





$$= \sum_{j=1}^{T} [(\sum_{i \in I_j} g_i) w_j + \frac{1}{2} (\sum_{i \in I_j} h_i + \lambda) w_j^2] + \gamma T$$



$$x^2 + \frac{b}{a}x + \frac{c}{a} = 0$$

$$\left(x + \frac{b}{2a}\right)^2 + \cdots$$