

B)

$$p_1, \dots, p_n$$

$$N \leq 10^6$$

$$p_{i+1} < p_i$$

$$n \leq 18$$

$$p_{i+1} \mid p_i$$

$$\sum_{i=1}^n p_i = N \geq 3(2^n - 1)$$

$$p_n \geq 3 \quad n \leq \log_2 \left(\frac{N}{3} + 1 \right)$$

$$\Rightarrow p_{n-1} \geq 6 \quad p_{n-i} \geq 3 \cdot 2^i$$

$$\Rightarrow N = \sum_{i=1}^n p_i \geq 3 \cdot \sum_{i=0}^{n-1} 2^i = 3(2^n - 1)$$

$$N = 3 \cdot 5 \cdot 7$$

$$5, 10, 30, 60$$

$$7, 14, 28, 56$$

$$\text{rest} = 102$$

$$p_n = 3$$

$$p_{n-1} = 6$$

$$\text{rest} = 96$$

$$p_{n-2} = 12$$

$$\text{rest} = 84$$

$$p_n = 84$$

Σ

✓

$$N = 27$$

$$p_n = 3$$

$$= 6$$

$$\text{rest} = 24$$

$$\checkmark 18$$

p

$k \cdot p$

$r \cdot k \cdot p$

$(r-1) \cdot k \cdot p$

210

3

207

9

198

18

180

36

144

144

.

$$p_1 \mid p_2, \dots$$

$$Z \leq p_1 + \dots + p_n = N$$

$$p_1(1 + p_2' + p_3' + \dots) = N$$

$$p_2' + \dots + p_n' = \frac{N}{p_1} - 1$$

$$p_1 \mid p_2 \quad p_1 < p_2$$

$$\Rightarrow p_1' \geq 2$$

$$3 + 6 = 9$$

$$3(1 + 2) = 9$$