$n = p_1^{\alpha_1} \cdot p_2^{\alpha_2} \cdots p_k^{\alpha_k}$

No of FACTORS $= (\alpha_1 + 1) \times (\alpha_2 + 1) \times \cdots (\alpha_k + 1)$

$P(n) = n^{\frac{\text{NO OF FACTORS}}{2}}$

SUM OF FACTORS

$= (1 + p_1 + p_1^2 + \cdots + p_1^{\alpha_1})$
$(1 + p_2 + p_2^2 + \cdots + p_2^{\alpha_2})$
$\vdots$
$1 + p_k + p_k^2 + \cdots + p_k^{\alpha_k}$

84 (1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84)

$= 81 \frac{ODD}{2}$

$84 = 2 \times 2 \times 3 \times 7$
$= 2^2, 3^1, 7^1$

$1 \times 2 \times 2$
2×3
4×3
$7 \times 2 \times 2$
7×3

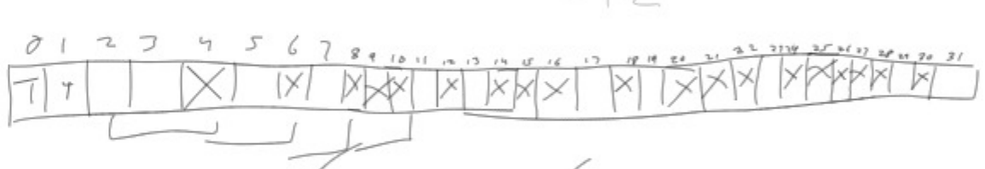
1, 2 → 3, 4, 6, 12, 7, 14, 28

$n^{\frac{3}{2}} = n \times n^{1/2}$
$= n \times \sqrt{n}$

81 = 1, 3, 9, 27, 81

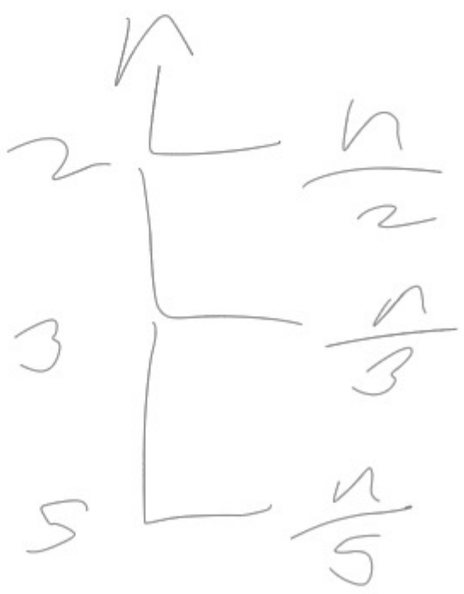
$81 \times 81 \times \sqrt{81} = 81^{\frac{5}{2}}$

$(2+1)(1+1)(1+1) + 2$
$3 \times 2 \times 2 = 12$



$n(\text{Log}(\log_2 n))$

6



$\frac{1}{2} = \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7}$

0.33 0.25 0.2 0.16