

$$S = \left(\frac{r}{v} + \frac{r}{v^2} + \dots\right) + \left(\frac{A}{v^2} + \frac{A}{v^3} + \dots\right) = \frac{r}{v} + \frac{A}{v^2} = \frac{19}{\epsilon A} = \frac{19}{\epsilon A} \quad \text{نشان ۴-۱}$$

$$\frac{\frac{1-x^9}{1-x}}{\frac{1-x^9}{1-x^7}} = \frac{1-x^7}{1-x} = 1+x+x^2 = (x+\frac{1}{x})^7 + \frac{1}{x} \Rightarrow 7 \quad \text{۱-۲}$$

$$S_{14} = \frac{14}{r} (a_1 + a_{14}) = \frac{14}{r} (11) = 11 \quad \text{۳-۳}$$

$$(x^r)^0 \cdot x + (x^r)^1 \cdot x + (x^r)^2 \cdot x + (x^r)^3 \cdot x + x^r \cdot x + x + 1 \quad \text{۴-۴}$$

$$\xrightarrow{x^r=1} x + x + x + x + x + x + 1 = 7x + 1$$

$$f(2) = -3, f(-2) = 7, f(x) = (x^2-2)Q(x) + ax + b \quad \text{۲-۵}$$

$$\Rightarrow 2a+b=-3, -2a+b=7 \Rightarrow a=-1, b=2 \Rightarrow \text{باقیه} = -x+2$$

$$\binom{n}{k} x^{n-k} (-2x^{-1})^k = \binom{n}{k} (-2)^k \cdot x^{n-2k} \rightarrow k=2 \quad \text{۱-۶}$$

$$\text{باقیه مسئله از آنجا} \quad \binom{n}{k} (-2)^k \quad x^y \text{ ضریب} \Rightarrow n-2k=y \Rightarrow k=1 \Rightarrow \binom{n}{1} (-2)^1$$

$$\frac{\binom{n}{1} (-2)^1}{\binom{n}{1} (-2)^1} = -1$$

$$(1+3)^{10} = \binom{10}{0} + \binom{10}{1} 3^1 + \binom{10}{2} 3^2 + \dots + \binom{10}{10} 3^{10} \Rightarrow A = \begin{matrix} 3^{10} - 1 \\ 3^2 - 1 \end{matrix} \quad \text{۴-۷}$$

$$[12, 18] = 36 \Rightarrow 36, 72, \dots \quad d=36 \quad 99 < 24 + (n-1)36 < 100 \quad \text{۳-۸}$$

$$4 \leq n \leq 28 \Rightarrow \text{باقیه} 25$$

$$(144, 45, 72) = 9 \Rightarrow \frac{144 + 45 + 72}{9} = 28 \quad \text{۲-۹}$$

$$(x+1)^9 = x^9 + 9x^8 + 36x^7 + \dots + 9x + 1 \quad \text{۲-۱۰}$$

$$(x-1)^9 = x^9 - 9x^8 + 36x^7 - \dots - 9x + 1$$

حاصلات فرودترین اند و باهم حرف می زنند ← باقیه باقی می ماند
باتوان