

19100

باران طری

$$a_n = \frac{1}{r}, 1, r$$

$$204 = a_1 = \frac{1}{r} \times r^9 = r^8 \quad (الف) \quad ①$$

$$\frac{a/r^9}{a/r^8} = r = r^8 = 14 \quad (-)$$

$$a_n = \frac{1}{r} r^{n-1} = \frac{r}{r} \quad \leftarrow \quad x^r = r^1 \times r^r \rightarrow x^r = r^{r+1} \quad (ج)$$

$$r^{n-1} = 14 = r^9 \rightarrow n=10$$

$$a_n = 121 = \frac{1}{r} r^{n-1}$$

$$\frac{121}{\frac{1}{r}} = 104 = r^{n-1} = r^9 \quad (د)$$

$$r^r = \frac{a_n}{a_0} = \frac{94}{12} = 1 \rightarrow r = 2 \quad (هـ) \quad ②$$

$$a_1 = a_n r^r = 94 \times 2 = 188$$

$$P_\infty = (a_r)^a = 243 = 3^5 \quad (و) \quad ③$$

$$a_r = 3$$

$$a_1 a_0 = a_r a_r = a_r a_r$$

$$a_1 a_0 = 2 \times 3 = 6$$

$$\text{وسط حسابی} = \frac{a+b}{2} = \frac{a}{2} = 2/5 \quad 14 \times 2 \leftarrow (4 \times 2)^r = r^a \times r^b$$

$$32 = r \rightarrow a+b=5 \quad (ز) \quad ④$$

$$(1-x)(1+x) = x^r \rightarrow 1-x^r = x$$

$$\frac{x^r}{x} = \frac{1}{r} \rightarrow x = \pm \sqrt{\frac{1}{r}}$$

1100

$$a_1 + a_r = 21 \rightarrow a(1+r^r)$$

$$a_r + a_r = 12 \rightarrow ar(1+r)$$

$$\rightarrow \frac{a(1+r^r)}{ar(1+r)} = \frac{(1+r)(1-r+r^r)}{r(1+r)} = \frac{r}{3} \quad (ح) \quad ⑤$$

$$r=2 \rightarrow a(1+2^2) = 21 \rightarrow a=1 \checkmark$$

$$r=\frac{1}{2} \rightarrow a(1+\frac{1}{2^2}) = 12 \rightarrow a=\frac{11}{5} \times$$

$$a_1 + a_r = 1 + (2^2) = 5 \checkmark$$

$$a_r + a_r = 3 + 9 = 12$$

$$a_1 + a_r = \frac{11}{5} + \frac{11}{5} \times \frac{1}{4} = \frac{16}{5} = 12 \times$$

$$a_r + a_r = \times$$

$$3 - 3r + 3r^2 = 3r$$

$$3r^2 - 1 \cdot r + 3 = 0$$

$$r^2 - 1 \cdot r + 9 = 0$$

$$(r-1)(r-9) = 0$$

$$r = \frac{1}{3}, r = 3$$

$$a=1 \quad r=3$$

$$a_r = ar^r$$

$$a_r = 9$$

$$a_r = ar^r$$

$$(a_r = 27)$$

$$a_1 = \frac{r}{r} = 1/a_r = 3 \times 3 = 9 \rightarrow \boxed{1, 3, 9}$$

$$r = \frac{1}{r} \rightarrow a_r = 9 / a_r = 1 \rightarrow \boxed{9, 3, 1} \quad P_r = a_r^r = 27$$

$$(a_r = 3)$$

$$a_1 + a_r + a_r = 12 \rightarrow a_1 + a_r = 1 \quad \textcircled{v}$$

$$a_1 a_r a_r = 27 \rightarrow \frac{r}{r} + 3r = 10$$

$$r = \frac{9}{r} = 3, r = \frac{1}{r} \leftarrow (r-9)(r-1) \leftarrow r^2 - 1 \cdot r + 9 = 0$$

$$a_n = 1, 9, 11, \dots \rightarrow r = 3 \quad S_{11} = a_1 \left(\frac{9^{11} - 1}{9 - 1} \right) = 3 \times \left(\frac{3^{11} - 1}{3} \right) = 3^{11} - 1 \quad \textcircled{1}$$

$$a_{11} = 1 \times 3^9$$

$$P_{11} = \sqrt{(a_1 a_{11})^{11}} = (a_1 a_{11})^{11} = (1 \times 1 \times 3^9)^{11}$$

$$= 3^{0 \times 11} \times 3^{9 \times 11}$$

$$a, aq, aq^2, \dots, aq^{n-1}$$

$$a - aq = a(1-q) \quad \text{قریبی} = q$$

$$aq - aq^2 = aq(1-q) \quad \text{دور} = a(1-q) = a - aq$$

$$aq^2 - aq^3 = aq^2(1-q) \quad q$$

⋮

$$\text{الف) } a + ad + ar^2d + a + r^2d + \dots + a + (n-1)d$$

$$na + \frac{n}{r} \times (n-1)d \rightarrow na + \frac{n^2d - nd}{r} = na + \frac{n}{r}(n-1)d$$

$$\frac{n}{r}(ra + (n-1)d)$$

$$\rightarrow S_n = a + ar + ar^2 + \dots + ar^{n-1}$$

$$rS_n = ar + ar^2 + ar^3 + \dots + ar^n$$

$$S_n - rS_n = a - ar^n$$

$$S_n(1-r) = a \frac{(1-r^n)}{(1-r)} \rightarrow S_n = a \left(\frac{1-r^n}{1-r} \right)$$