

دایان رضی خواه ۱۹، ۵ علیہ السلام آفرین خیر بیست کردی

$$q = 3 \quad \alpha_1 = \frac{1}{3}$$

$$\alpha_1 = \alpha_1 q^1 = \frac{1}{3} \times 3^1 = 1$$

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$$\frac{\alpha_1 q^{14}}{\alpha_1 q^{12}} = \frac{3^{14}}{3^{12}} = 3^2 = 9$$

ب. م

$$\alpha_1 = \frac{1}{3} \times 3^0 = 1$$

$$\alpha_1 = 2 \times 3^0 = 2$$

$$\sqrt{2 \times 3} = \sqrt{6} = 3 \times 2$$

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$$1^4 = \frac{1}{3} \times 3^{n-1} = 3^{n-1}$$

$$1 = 3^{n-1} = n-1 = 1 \Rightarrow n = 2$$

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$$\alpha = 1^2 \quad \alpha_1 = 9^4$$

$$\frac{\alpha_1 q^{14}}{\alpha_1 q^{12}} = \frac{9^4}{1^2} = 9^2 = 81$$

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$$\alpha_1 = \alpha_1 q^1 = 9^4 \times 3^2 = 9^4 \times 9 = 9^5 = 59049$$

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$$\alpha_1 \times \alpha_1 \times \alpha_1 \times \alpha_1 \times \alpha_1 = 3^5 \times 3^5 = 3^{10}$$

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$$\alpha_1 \times \alpha_1 q \times q q^2 \times \alpha_1 q^3 \times \alpha_1 q^4 = \alpha_1^5 q^{1+2+3+4} = \alpha_1^5 q^{10} = (3^5)^5 = 3^{25}$$

$$(\alpha_1)^5 = 3^5 \times 3^5$$

$$\mu^5 = 3^5 \times 3^5$$

$$\alpha_1^5 = 3^5$$

$$\alpha_1 \alpha_1 (\alpha_1 q^2)^3 = (\alpha_1^5)^3 = 3^{15} = 14348907$$

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$$\frac{\alpha_1^b}{\mu^a} = \left(\frac{3^b}{3^a}\right)^p = \frac{3^{b-p}}{3^{a-p}} = \frac{3^{b-a}}{3^{a-p}} = \frac{3^{b-a}}{3^{a-p}}$$

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$$\alpha_1 = 1 - \alpha_1 \quad \alpha_1 = \alpha_1$$

$$\alpha_1 = \alpha_1 + 1$$

$$\frac{\alpha_1}{1 - \alpha_1} = q^1 \rightarrow \frac{\alpha_1}{1 - \alpha_1} = 3$$

$$\frac{\alpha_1}{1 - \alpha_1} = q^1 \rightarrow \frac{\alpha_1}{1 - \alpha_1} = 3$$

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$$\left(\frac{\alpha_1}{1 - \alpha_1}\right)^p = \frac{\alpha_1 + 1}{1 - \alpha_1} \Rightarrow \alpha_1 = \frac{1}{\sqrt{3}}$$

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$$\alpha_1 + \alpha_1 = 2 \times 1$$

$$\alpha_1 + \alpha_1 = \alpha_1 + \alpha_1 q^1 = \alpha_1 (1 + q^1) = 2 \times 1$$

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$$\alpha_1 + \alpha_1 q = 1 \times 3 \Rightarrow \alpha_1 q + \alpha_1 q^2 = \alpha_1 q (1 + q) = 1 \times 3$$

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$$\frac{\alpha_1 q (1 + q)}{\alpha_1 (1 + q^2)} = \frac{1 \times 3}{2 \times 1} = \frac{3}{2}$$

$$3 \alpha_1 (1 + q) = 3 (1 + q^2) =$$

$$3 (1 + q) = \frac{3}{2}$$

$$3 \alpha_1 q^2 - 3 \alpha_1 q^1 - 3 \alpha_1 + 3 = 0$$

$$(1 + q) (q^2 - q + 1) = \frac{3}{2}$$

$$3 q^2 - 3 q + 3 = 3 q$$

$$2 \sqrt{3}$$

$$3 q^2 - 1 \cdot q + 3 = 0 \rightarrow \frac{1 \pm \sqrt{1 - 12}}{2} \rightarrow q = 3 \rightarrow a(1 + 3) = 3 \rightarrow a = 1$$

$$3 q = 1 \rightarrow a(1 + \frac{1}{3}) = 3 \rightarrow a = 3 \times \frac{3}{4} = \frac{9}{4}$$

$$a + ar + ar^2 = 1^w$$

$$a(1 + r + r^2) = 1^w$$

$$a = \frac{1^w}{1 + r + r^2}$$

$$\frac{r}{r} = \frac{1^w}{1 + r + r^2}$$

$$a + ar + ar^2 = 1^w$$

$$a(1 + r + r^2) = 1^w \quad a = \frac{1^w}{1 + r + r^2}$$

$$r(1 + r + r^2) = 1^w r$$

$$r + r^2 + r^3 = 1^w r$$

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

$$\Delta = \frac{1 \pm \sqrt{1 - 4 \cdot 1 \cdot 1}}{4} = \frac{1 \pm 1}{4}$$

$$r_1 = 1 \rightarrow 1, 1, 1$$

$$r_2 = \frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2}, \frac{1}{2}$$

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$$S_1 = a \left(\frac{q^n - 1}{q - 1} \right) \Rightarrow r_2 \left(\frac{1^w - 1}{1 - 1} \right) = r \left(\frac{1^w - 1}{1 - 1} \right) = 1^w - 1$$

$$a_1 = a, a_2 = r_2 \cdot a$$

$$(r_2 \cdot r_2 \cdot r_2) \cdot a = r_2^3 \cdot a$$

$$a + ar + ar^2 + ar^3$$

$$ar - a = a(r - 1)$$

$$a(r - 1), ar(r - 1), ar^2(r - 1)$$

$$ar^2 - ar = ar(r - 1)$$

$$\frac{ar(r - 1)}{a(r - 1)} = r$$

$$ar^3 - ar^2 = ar^2(r - 1)$$

$$S_n = a + a + d + \dots + a + (n-2)d + a + (n-1)d$$

$$S_n = a + (n-1)d + a + (n-2)d + \dots + a + d + a$$

$$rS_n = ra + (n-1)d + ra + (n-2)d + \dots$$

$$rS_n - n[r a + (n-1)d] \rightarrow S_n = \frac{n}{r} [r a + (n-1)d]$$

$$a(S_n - aq^{n-1} + aq^{n-2} + \dots + aq + a)$$

$$a, aq^{n-1} + aq^{n-2} + \dots + aq + a = a \cdot S_n$$

$$a, aq^{n-1} + S_n \cdot a = a \cdot S_n$$

$$S_n(q-1) = a(q^n - 1)$$

$$S_n = a \cdot \frac{(q^n - 1)}{(q - 1)}$$