

Subject:

Date:

12/10/2020

A B - 01/5/2020

$$a + aq + aq^2 = 1$$

$$a \times aq \times aq^2 = 1$$

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$$a(1+q+q^2) = 1$$

$$a^3 q^3 = 1 \rightarrow aq = 1$$

$$a = \frac{1}{1+q+q^2} \Rightarrow \frac{1}{1+q+q^2} = 1$$

$$1+q+q^2 \rightarrow 1/q + 1 + q \rightarrow q^2 - 1/q + 1 = 0$$

$$q^2 - 1/q + 1 = 0$$

$$q, \frac{1}{q} \left[q \pm \frac{1}{q} \right] \leftarrow (q-1)(q-1) = 0$$

$$x^2 + 1, 1, x^2 - 1 \Rightarrow (x^2 - 1)(x^2 + 1) = x^4 - 1$$

- 1

$$x^2 = \frac{1 \pm \sqrt{3}}{2} = 1, \frac{1 \pm \sqrt{3}}{2} \leftarrow x^4 - 1 = 0$$

$$x^2 = 1 \rightarrow x = \pm 1$$

$$x^2 = 1 \Rightarrow x = 1, -1, \checkmark$$

$$x^2 = 1 \Rightarrow x = 1, -1, \checkmark$$

$$\left\{ \begin{array}{l} a_1 = 1 \\ a_2 = \frac{1}{q} \end{array} \right\} S_n = \frac{1 - \left(\frac{1}{q}\right)^n}{1 - \frac{1}{q}}$$

$$\left[\frac{1 - \left(\frac{1}{q}\right)^n}{1 - \frac{1}{q}} \right]$$

$$1 + q + q^2 + q^3 + q^4 = \frac{1 - 1}{1 - 1} \quad a = 1, 1, 1, 1, 1$$

- 1

$$S_n = a + aq + aq^2 + aq^3 + aq^4 = \left(\frac{1 - 1}{1 - 1} \right) a = \frac{1 - 1}{1 - 1} \times 1 = 1$$

$$raq, raq^r, aq^r$$

-1

6. 10

$$\frac{aq^r + raq}{r} = raq^r \Rightarrow aq^r + raq = r^2 aq^r$$

$$aq(q^r + r) = (aq)(r)$$

$$q^r + r = r \Rightarrow q^r - r = 0$$

$$(q-1)(q-r) = 0 \Rightarrow \begin{cases} q=1 \\ q=r \end{cases}$$

$$r, \frac{v}{r}, \dots \Rightarrow d = \frac{v}{r} - r = -\frac{1}{r} \quad a_r = a + rd = \frac{a}{r}$$

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$$(a_1 + n)(a_2 + n) \dots (a_n + n)^r \quad a_{1+r} = a + rd = -1$$

$$n^r + \frac{1}{r}n - \frac{d}{r} = n^r + \frac{1}{19} + \frac{1}{r}k \Rightarrow \frac{1}{r}n = \frac{-r}{19} \Rightarrow n = \frac{-r}{19}$$

$$q = \frac{a_1 r + k}{a_1 + k} \quad \frac{-rd}{r} = \frac{d}{r}$$

$$a + aq^r + aq^4 = vr \Rightarrow a(1 + q^r + q^4) = vr$$

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$$a = a_1, aq^r = a + d, aq^4 = a + 4d \Rightarrow a + 4d(q^r - 1) = a(qq^r - 1)$$

$$d = aq^r - a = a(q^r - 1) \quad aq^4 = a(qq^r - 1) \Rightarrow$$

$$aq^r - q^4 - 1 = 0$$

$$q^4 - 9q^r + 1 = 0 = (q^r - 1)(q^r - 1) = 0$$

$$q^r - 1 = 0 \Rightarrow q = 1 \Rightarrow d = a(q^r - 1) = 0$$

$$ra = vr \Rightarrow a = \frac{vr}{r}$$

$$vr = vr \Rightarrow a = 1$$

$$q^r = 1 \Rightarrow q = 1 \Rightarrow d = \frac{v}{r}(0) = 0$$

$$d = 1(1-1) = 0$$