

(1)

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

$$a \times aq \times aq^2 = 4 \times \frac{1}{4} \rightarrow aq = 1 \rightarrow a = \frac{1}{q}$$

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

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

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

$$(q - 1)(q - 1) = 0$$

$$q = 1 \quad q = 1$$

$$q = \frac{1}{1} = 1$$

در سوال گفته شده که  
q عدد صحیح باشد  
پس q = 1 است.

$$n^2 \rightarrow b^2 = ac$$

$$\frac{n^2}{1} \times \frac{n^2}{4} \times \frac{n^2}{9} \rightarrow \frac{n^2}{1} = \frac{n^2}{4} \times \frac{n^2}{9} \rightarrow n^2 = 1 \rightarrow n = 1$$

در اینجا گفته شده که

$$n = 1, 2, 3, 4, \dots$$

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$$s_n = a_1 \left( \frac{q^n - 1}{q - 1} \right)$$

$$s_1 = 1 \left( \frac{1^1 - 1}{1 - 1} \right) \rightarrow \frac{1 - 1}{1 - 1} = \frac{0}{0} = -1 \approx -1.5708$$

$$1 + q + q^2 + q^3 + q^4 = \frac{121}{11} \rightarrow a(1 + q + q^2 + q^3 + q^4) = a \frac{121}{11}$$

(3)

$$s_{10} = ? \quad a_1 = 1 \times 11$$

$$s_n = a_1 \left( \frac{q^n - 1}{q - 1} \right) \rightarrow a_1 + a_1 q + a_1 q^2 + a_1 q^3 + a_1 q^4 = s_{10}$$

$$a_1 + a_1 q + a_1 q^2 + a_1 q^3 + a_1 q^4 = s_{10}$$

$$1 \times 11 \times \frac{121}{11} = 121 = s_{10}$$

$$A = \frac{b-a}{n-1}$$

$$A = \frac{b-a}{n-1}$$

$$A + B = ?$$

$$B = \frac{b-a}{n-1}$$

$$B = \frac{b-a}{n-1}$$

$$A = a + (n-1)d \rightarrow 1 + (10-1)1 = 10$$

$$B = 1 \times (10)^{10} = 10^{10}$$

$$B = 1 \times (-10)^{10} = 10^{10}$$

$$A + B = 10 + 10^{10} = 10^{10} + 10$$

$$10^{10} + 10 = 10^{10} + 10$$

(4)

$$a+ad, a+4d, a+nd$$

(6)

$$\begin{aligned} \text{نویس } b &= ac \\ \text{نویس } a &= \frac{b}{c} \\ \text{نویس } a &= \frac{b}{c} \end{aligned} \rightarrow (a+nd)^2 = (a+nd)(a+nd) \rightarrow \cancel{ad} + \cancel{nd} = 0$$

$$\cancel{a}d + \cancel{n}d^2 = 0$$

$$ad + nd^2 = 0$$

$$d(a+nd) = 0 \rightarrow d = 0$$

$$a+nd = 0$$

$$b+nd = a \rightarrow d = \frac{a-b}{n}$$

$$a+ad, a+vd, a+vd$$

(7)

$$a = \frac{1}{x} \rightarrow (a+vd)^2 = (a+vd)(a+vd) \rightarrow \cancel{ad} + \cancel{vd} = 0$$

$$\cancel{a}d + \cancel{v}d^2 = 0$$

$$\cancel{a}d + d^2 = 0$$

$$-d(a-d) = 0$$

$$\rightarrow d = 0$$

$$\rightarrow a = d$$

سوال گفته شده است  
مقادیر می توانیم  
است پس می توانیم

$$a_p = ?$$

$$\rightarrow a_q = ?$$

$$a+a = \cancel{a} = \frac{1}{x}$$

$$a = \frac{1}{x}$$

$$d = a$$

$$ra_p, ra_q, a_q$$

(8)

$$\rightarrow ra_p, ra_q, a_q$$

$$d = \frac{b-a}{n+1} \rightarrow (n+1)d = b-a$$

$$\rightarrow r(ra_q) = (ra_q) + (a_q)$$

$$q^2 - \epsilon q + \epsilon = 0 \rightarrow q(q - \epsilon q + \epsilon) = 0 \rightarrow \left. \begin{aligned} q &= 0 \\ q &= 1 \\ q &= 3 \end{aligned} \right\} \text{ پس } q = 3$$

$$q^{n-m} = \frac{a_n}{a_m}$$

$$a_1 + a_1 q^w + a_1 q^y = v^w \rightarrow a_1 (1 + q^w + q^y) = v^w$$

$$a_1 + a + d + a + 9d = v_w \rightarrow 2a + 10d = v_w$$

$a_1 q^n = a_1 d$   
 $a_1 = a_1$

$d = a_1 q^n - a_1$

$d = a_1 d - a_1$

$d = a_1 d - a_1$

$$d = a_1(q^w - 1) \leftarrow d = a_1 q^w - a_1 \quad \left. \begin{array}{l} qd = a_1 q^w - a_1 \\ a_1(q^w - 1) = d \end{array} \right\} \rightarrow \left. \begin{array}{l} a_1(q^w - 1) = d \rightarrow \frac{a_1(q^w - 1)}{q} = d \\ a_1(q^w - a_1) = d \end{array} \right\} \rightarrow \left. \begin{array}{l} \frac{a_1(q^w - 1)}{q} = d \\ \frac{a_1(q^w - a_1)}{q} = d \end{array} \right\} \rightarrow \text{این دو معادله مساوی هستند}$$

$\frac{\hbar}{m\lambda} \rightarrow \pm \sqrt{\lambda} \rightarrow \pm$

$$(q^{\lambda}-1)(q^{\lambda}-1)=0$$

$$\frac{(q^4 - 1)}{q} = (q^3 - 1)$$