

Subject.....

Day... Month... Year...

الناسيباني

$$جواب: a, aq, aq^2$$

$$مجموع: a(1 + q + q^2) = 21$$

$$حاصل ضرب: a^2 q^2 = 42 \Rightarrow aq = 2 \Rightarrow a = \frac{2}{q}$$

بالتعويض:

$$\frac{2}{q}(1 + q + q^2) = 21 \Rightarrow 2(1 + q + q^2) = 21q \Rightarrow 2q^2 - 19q + 2 = 0$$

حل:

$$q = \frac{19 \pm \sqrt{19^2 - 4 \cdot 2}}{2 \cdot 2} = \frac{19 \pm 17}{4} \Rightarrow q = \frac{1}{2} \text{ or } 18$$

إذن:

$$x^2 + 2, x^2, x^2 - 2$$

بالتعويض:

$$x^2 = (x^2 + 2)(x^2 - 2) \Rightarrow x^2 = x^4 - 4 \Rightarrow x^4 - x^2 - 4 = 0$$

إذن:

$$1, 2, 4$$

$$جواب: q = \frac{1}{2}$$

بالتعويض:

$$S_n = a \times \frac{1 - (\frac{1}{2})^n}{1 - \frac{1}{2}} = 14 \times \frac{1 - \frac{1}{2}}{1 - \frac{1}{2}} = 14 \times \frac{1}{1} = 14$$

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$$1 \text{ داده: } 1 + q + q^2 + q^3 + q^4 = 225 \quad (1)$$

$$2 \text{ جمله اول: } \frac{121}{11}$$

$$3 \text{ مجموع } S_5 = \frac{121}{11} \times 225 = 121 \times 20 = 2420$$

$$4 \text{ میان: } A = \frac{1 + 22}{2} = \frac{23}{2} = 11.5 \quad (2)$$

$$5 \text{ منبری: } r^4 = 22 \Rightarrow r = \sqrt[4]{22} \Rightarrow B = 1 \times r^4 = 1$$

$$6 \text{ مجموع: } A + B = \frac{23}{2} + 1 = \frac{25}{2}$$

$$7 \text{ جمله اول: } -22 \quad (3)$$

$$8 \text{ جمله دوم: } -\frac{98}{2} \Rightarrow d = \frac{1}{2}$$

$$9 \text{ جمله اول: } a_{1,1} = -22 + 1 \times \frac{1}{2} = -21.5$$

$$10 \text{ منبری: } a_1 = 121, a_n = 121 \times q^V = 1 \Rightarrow q^V = \frac{1}{121} \Rightarrow q = \frac{1}{11}$$

$$11 \text{ اول: } a + 2d, a + 4d, a + 11d \quad (4)$$

$$12 \text{ منبری: } (a + 4d)^2 = (a + 2d)(a + 11d) \Rightarrow a^2 + 11ad + 4d^2 = a^2 + 13ad + 22d^2$$

$$13 \text{ } 2ad + 18d^2 = 0 \Rightarrow 2a + 18d = 0 \Rightarrow d = -\frac{a}{9}$$

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$$U_2: a+d, a+rd, a+rd^2$$

(✓)

مربع:

$$(a+rd)^2 = (a+d)(a+rd) \Rightarrow a^2 + rad + rd^2 = a^2$$

$$+ rad + rd^2 - rad + rd^2 = 0 \Rightarrow d = a$$

$$U_2: a+d=2a=2 \Rightarrow a=2, d=2$$

$$q = \frac{a+rd}{a+d} = \frac{1+2}{2} = 2$$

$$U_2: a_1 \times q^1 = 2 \times 2^1 = 2 \cdot 2 = 4$$

$$U_2: 2aq, 2aq^2, aq^3$$

(✓)

$$2aq^2 = 2aq + aq^3 \Rightarrow 2q^2 = 2q + q^3$$

$$\Rightarrow q(q-1)(q-2) = 0$$

$$q \neq 0 \Rightarrow q = 2$$

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$$a_n = 2 + (n-1) \times 3 = 3n - 1 \quad (9)$$

$$a_2 = 17, a_4 = 47, a_{12} = 47$$

$$(47 + c)^2 = (17 + c)(47 + c) \Rightarrow c \cdot 18 = 0 \Rightarrow c = 0$$

$$\frac{1}{128} = \frac{2}{8}$$

$$a, aq, aq^2 \quad (1)$$

$$a(1 + q + q^2) = 17$$

$$a, a+d, a+2d$$

$$(a+d)^2 = a(a+2d) \Rightarrow d^2 = 2ad$$

$$d = a(q-1)$$

$$a^2(q-1)^2 = 17a^2(q-1) \Rightarrow q-1 = 17 \Rightarrow q = 18$$

$$a(1 + 18 + 18^2) = 17 \Rightarrow a = 1, d = 17$$