

مجموع کمال = 44

$$\frac{4a + 11}{2} \rightarrow \frac{144}{4} = 36$$

مجموع کمال = 11

مجموع اول: $\{1, 2, 4\}$

$\{2, 4, 8, 16\}$

$\{4, 8, 16, 32\}$

$\{8, 16, 32, 64\}$

$\{16, 32, 64, 128\}$

مجموع اول: $1, 4, 16, 64, \dots$
تقریباً $+3, +9, +17$

اول: $\frac{r^n - 1}{r - 1}$

مجموع اول دسته = $\frac{16^3 - 1}{16 - 1} \times 11$

مجموع اول دسته = $\frac{16^4 - 1}{16 - 1} \times 11$

$\rightarrow \frac{16^4 - 1}{16 - 1} \times 11 = 164$

$a_1 = 1$
 $a_2 = 2$
 $a_3 = 4$
 $a_4 = 8$

$a_1 = 2$
 $a_2 = 4$
 $a_3 = 8$
 $a_4 = 16$

$a_1 = 4$
 $a_2 = 16$
 $a_3 = 64$
 $a_4 = 256$

$19 = 16 + 11a$
 $-4 = 11a$
 $a = -\frac{4}{11}$

$\sum_{k=0}^n \left[\frac{k-1}{k+1} \right] \rightarrow -1 + -\frac{1}{2} + 0 + 0 + \dots + 0 = -1$

$$ah^r + bn + c \rightarrow$$

$$\text{فرماندگی} = -1f$$

(ع)

$$Q_v = \varepsilon a + v b + c = 14, 2$$

$$a = -1 \varepsilon \times \frac{1}{v_0} = -\frac{1}{\omega}$$

$$Q_\omega = 2 \varepsilon a + \omega b + c = 1 \varepsilon$$

فرماندگی

$$2 \varepsilon a + 2 b = 1, 2 \rightarrow 12a + b = 1, 4$$

$$12\left(-\frac{1}{\omega}\right) + b = \frac{4}{10} \rightarrow \boxed{b = 4}$$

$$Q_\omega = 2 \varepsilon \left(-\frac{1}{\omega}\right) + \omega(\varepsilon) + c = 1 \varepsilon \rightarrow$$

$$-\omega + 20 - 1 \varepsilon = -c$$

$$\boxed{c = 1}$$

$$Q_{10} = 2 \varepsilon \left(-\frac{1}{\omega}\right) + 1 \omega(\varepsilon) = 1$$

$$-2 \varepsilon + 40 - 1 = 1 \varepsilon$$

$$a_1 = 1 \times \left(-\frac{1}{\omega}\right) + \varepsilon - 1 =$$

$$-\frac{1}{\omega} + 1 = \left(\frac{1 \varepsilon}{\omega}\right)$$

$$\frac{a_{10}}{a_1} = \frac{+1 \varepsilon}{\frac{+1 \varepsilon}{\omega}} = \omega$$

(و)

$$a_\varepsilon = b_r$$

$$a_n = b_v$$

$$a_1 + v d = b_r$$

$$a_1 + v d = b_v$$

$$\text{فرماندگی}$$

$$f d = b_v - b_r$$

$$f d = \omega c$$

$$d = \frac{\omega}{\varepsilon} c$$

فرماندگی

$$b_n = C h + F \rightarrow b_v - b_r = v c + F - 1 c - F = \omega c$$

$$b_0 \rightarrow 10 c + F = 0 \rightarrow F = -10 c$$

$$\frac{b_{10}}{d} = \frac{10 c + F}{d} = \frac{-10 c}{\frac{\omega}{\varepsilon} c} = \left(\frac{F}{\omega}\right)$$

Arman

$$4a^r = 2a_r a + 1a_r a$$

$$4(a^r + d^r + rad) = 2(a + rd)(a) + 1(a + rd)(a)$$

$$4a^r + 4d^r + 1rad = 2a^r + 1ad + 1a^r + rad \rightarrow 4a^r + 4d^r + 1rad = 1a^r + 1rad$$

$$4a^r + 4d^r + 1rad - 1a^r - 1rad = 0 \rightarrow 3a^r + 4d^r = 0 \rightarrow (a, d)(a - rd)$$

$$\frac{a + rd}{d} \rightarrow \frac{+d}{d} = (+1)$$

$$\frac{a + rd}{d} \rightarrow \frac{a}{d} = \left(\frac{a}{r}\right)$$

$$(a + rd)(ra - rd)$$

$$a + rd = 0$$

$$a = -rd$$

$$ra - rd = 0$$

$$ra = rd$$

$$a = \frac{r}{r} d$$

a, b, c

a, a+d, a+rd

حل المسألة

$$b, \frac{a}{r}, \frac{c}{\varepsilon} \xrightarrow{\text{نحوه}} \frac{c}{\varepsilon} \times b = \frac{a^r}{\varepsilon}$$

$$cb = a^r$$

$$(a + d)(a + rd) = a^r \rightarrow a + rad + rd^r = a^r$$

$$ra = rd$$

$$a = \frac{r}{r} d$$

$$\frac{a}{\frac{r}{r}d}, \frac{b}{\frac{1}{r}d}, \frac{c}{\frac{\varepsilon}{r}d} \xrightarrow{\text{نحوه}} a, b, c$$

$$b, \frac{a}{r}, \frac{c}{\varepsilon}$$

$$\frac{d}{r}, \frac{d}{r}, \frac{d}{r}$$

$$-1$$

Arman

$$a, b, c \quad \text{داده شده}$$

$$a, ar, ar^2$$

①

$$b, ca, c \quad \text{داده شده} \rightarrow \text{داده شده} = b + c = ca$$

$$ar, ca, ar^2$$

$$ar + ar^2 = ca \rightarrow$$

$$ar(r + r) = ca \rightarrow$$

$$r^2 + r = \frac{c}{a} \rightarrow r^2 + r - \frac{c}{a} = 0$$

$$\Delta = b^2 - 4ac \rightarrow 9 + 14 = 23$$

$$r = \frac{-1 \pm \sqrt{23}}{2} \rightarrow 1, -f$$

$$\frac{a_1}{a_2} = \frac{ar^n}{ar^0} = r^n \rightarrow 1) r^n = 1$$

$$\rightarrow (-1)^n = -1 \rightarrow n = 1$$

$$\frac{a_1}{(a_2)^n} + \frac{a_2}{(a_2)^r} = r \rightarrow \frac{ar^0}{(ar)^n} + \frac{ar}{a^r} = r \rightarrow \frac{r^r}{a^r} + \frac{r}{a} = r$$

②

$$\frac{ar^0}{a^r}$$

$$\frac{r^r + ar}{a^r} = r \rightarrow ra^r = r^r + ar$$

$$r^r + ar - ra^r = 0$$

$$\Delta = a^2 + 14a^r = 4a^r$$

$$\frac{a^r}{ar} = \frac{a}{r} \rightarrow 1, \frac{1}{r}$$

$$r = \frac{-a \pm \sqrt{a^2}}{r} \rightarrow a, -a$$

$$a^r = a$$

$$a^r r = ar$$

$$ar = 1$$

$$\frac{ar^r}{ar} = \frac{r^r}{1} \rightarrow r^r = r^r$$

$$\boxed{r = 1}$$

$$\boxed{a = \frac{1}{r}}$$

$$\frac{1}{r} = \frac{1}{r} = \frac{1}{4}$$

Arman