

$$r(a_1 + a_2 + a_3 + a_4 + a_5) = a_4 + a_2 + a_1 + a_3 + a_5$$

(r)

$$r(a_1 + 10d) = 10a_1 + 40d$$

$$10a_1 + 40d = 10a_1 + 40d \Rightarrow 10a_1 = 10a_1 \Rightarrow r a_1 = a_1$$

$$\frac{a_2}{a_1} = \frac{a_1 + d}{a_1} = \frac{r a_1}{a_1} = r$$

$$t_n = t_{n-r} + 10 \Rightarrow t_n - t_{n-r} = 10 \Rightarrow r d = 10 \Rightarrow d = \frac{10}{r} - v$$

(r)

$$\frac{t_n - t_{n-r}}{t_n} = \frac{(t_n - t_{n-r})(t_n + t_{n-r})}{(t_n + t_{n-r})} = \frac{r + v \times r \times d}{t_n} = \frac{r_0}{t_n}$$

$$d = \frac{r + \sqrt{r} - r(1 - \sqrt{r})}{r^2 + 1} = \frac{r \sqrt{r}}{r^2} = \sqrt{r}$$

(r)

$$r + nd = 11 \Rightarrow nd = a$$

$$\Rightarrow nd = n \left(\frac{10}{r^{n-1}} \right) = a \Rightarrow 10n - a = 10n$$

(r)

$$d = \frac{r^2 - 1}{r^{n-1} + 1} = \frac{10}{r^{n-1}}$$

$$\Rightarrow r^n = a \Rightarrow n = r$$

$$a_n + a_{n+r} = a_r + a_{1v} \Rightarrow n + n + r = r + 1v \Rightarrow r n = 15$$

(r)

$$a_n = r a_{\frac{n}{r}} \Rightarrow a_n = r a_r \Rightarrow a_1 + v d = r a_1 + a_d \Rightarrow r a_1 = r a_1$$

$$\Rightarrow a_1 = -d \Rightarrow a_1 + d = 0$$

0 = r d

Subject

Date : Year Month Day

$$a_1 = k_0 \quad a_k = 41 \quad a_k - a_1 = kd = 41 - k_0 = 41 \Rightarrow d = 1 \quad (2)$$

$$a_n = k_0 + (n-1)d = (n-1) + k_0 = 1000 \Rightarrow 1000 = 1 + k_0 \Rightarrow k_0 = 999$$

$$\Rightarrow n = 1000 \quad \checkmark$$

$$a_n = 1000 - n \Rightarrow 999 < 1000 - n < 1000 \Rightarrow 1000 < n < 1001 \quad (2)$$

$$1000 < n < 1001 \Rightarrow 1000 < n < 1001 \rightarrow \frac{1001 - 1000}{1} + 1 = 1000 \quad \checkmark$$

$$a_{n+1} + a_{n+2} + a_{n+3} = -4n + 12 \quad (2)$$

$$n=4 \Rightarrow a_5 + a_6 + a_7 = 3a_4 = -4 \times 4 + 12 = -4 \Rightarrow a_4 = -1$$

$$n=10 \Rightarrow a_{11} + a_{12} + a_{13} = 3a_{10} = -4 \times 10 + 12 = -38 \Rightarrow a_{10} = -12.6$$

$$a_1 + a_{10} = -12.6 + (-1) = -13.6 \quad \checkmark$$

$$10 \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{2}$$

$$a + 2d, a + 3d, a + 4d \quad a_1 - a_2 = d = 1 \Rightarrow a_1 = 1 \quad (2)$$

$$a_{10} - a_1 = 9d = 9 \Rightarrow a_{10} = 10$$

$$10 - 10 = 0 \Rightarrow 10 - 10 = 0 \Rightarrow (10 - 10)(10 + 1) = 0$$

$$10 = 10 \Rightarrow 10 = 10 \Rightarrow a_{10} = 10, a_1 = 1, a_{10} = 10$$

$$15 \quad a_1 + a_2 + a_{10} = 1 + 1 + 10 = 12 \quad \checkmark$$

$$a_{12} - a_{10} = d \Rightarrow -2d = d \Rightarrow d = -1 \quad (1)$$

$$+ a_{10} + a_{12} = 2d$$

سوال لغتہ. a_1 روز از a_{12} کم
میکنیم!

$$20 \quad 2a_{12} = 20 \Rightarrow a_{12} = 10 \Rightarrow a_{10} = 20 - 10 = 10$$

$$a_{11} = a_{10} + 11d = 10 + 11(-1) = -1 \quad \checkmark$$

$3V, d$