

کلاس دهم B

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$$a_1 = 20 \text{ و } a_4 = 31$$

-1

$$\frac{a_4 - a_1}{4 - 1} = d = \frac{11}{3} = V$$

$$a_n = Vn + 19$$

$$Vn + 19 = 20.1 \Rightarrow Vn = 119 \Rightarrow n = 2V$$

~~$$10.1, 10.1, 10.1, \dots, 99V$$~~

-2

$$a_n = Vn + 92$$

$$Vn + 92 = 99V \Rightarrow Vn = 9.7 \Rightarrow n = 129$$

-3

$$a_{10} - a_{12} = d$$

$$\frac{a_{10} - a_{12}}{10 - 12} = d = \frac{d}{-2} = -\frac{1}{2}d$$

$$a_{10} + a_{12} = a_{10} \times r - d = r d \Rightarrow a_{10} = 10$$

$$a_{12} = a_{10} + 11d = 10 - 11 \times \frac{1}{2}d = \boxed{-11 \times \frac{1}{2}d}$$

$$a_1 + a_2 + a_3 + a_4 + a_5 = \frac{1}{r} (a_1 + a_2 + a_3 + a_4 + a_5) = 5$$

$$a_1 + a_2 + a_3 + a_4 + a_5$$

$$a_1 + a_2 + a_3 + a_4 + a_5$$

$$a_1 + a_2 + a_3 + a_4 + a_5 = r a_1 = (a_1 + 10d) \times r = 10ar + r^2 d$$

$$a_1 = 10 \Rightarrow a = \frac{1}{r} d$$

$$\frac{a_2 = \frac{r}{1} d}{a_1 = \frac{1}{r} d} \Rightarrow \frac{a_2}{a_1} = r$$

$$t_n = t_{n-1} + 10 \Rightarrow d = 10$$

-1

$$t_9 = t_0 + 90$$

$$(t_0 + 90)^r = \cancel{t_0^r} + r_0 t_0 + r_{00} - \cancel{t_0}$$

$$t_9 = t_0 + 10$$

$$\frac{r_0 t_0 + r_{00}}{t_0 + 10} = \boxed{r_0}$$

$$\cancel{r\sqrt{r}} - \cancel{r} + 12\sqrt{r} = \cancel{12}\sqrt{r} \quad \frac{12\sqrt{r}}{12} = \boxed{\sqrt{r}} \rightarrow 1$$

$$r_1 - r = r_0$$

$$\frac{r_0}{r_{n-1}} = d \quad \& \quad a_n = 11$$

-9

$$a_n = r + (n-1) \frac{r_0}{r_{n-1}} = r + \frac{r_0 n - r_0}{r_{n-1}} = \frac{r_1 n - r_1 r}{r_{n-1}} = 11$$

$$\cancel{r_1 n} - r_1 r = \cancel{r_1 n} - r_1 r \Rightarrow -1r = 11n \Rightarrow n = -r$$

$$a_n + a_{n+r} = a_r + a_{11} \quad -10$$

$$n + n + r = r_0 \Rightarrow n = 1$$

$$a_1 = r a_r$$

$$\frac{a_1 - a_r}{r} = \frac{a_r}{r} = d$$

$$a_r - r d = 0 = \boxed{a_0}$$

Date:

Subject:

$$r^n - 1 = ar$$

$$r^{n+1} = ar$$

$$\Rightarrow r^n = ar$$

$$ar + ar = ar + ar$$

$$\Rightarrow r^n + r^n - 1 = r^{n+1} + r^{n+1} - 1 = r^{n+1}$$

$$\Rightarrow r^n + r^n - 1 = r^{n+1}$$