

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۳/۳ کلاس: (دوره اول)

$$t_1 = f_0 \Rightarrow \frac{y_1 - f_0}{f - 1} = \frac{y_1}{w} = V \Rightarrow V(n + w) \Rightarrow y_0 - w = \frac{Vw}{V} = w$$

$$t_2 = y_0 = 1$$

(۲)

$$91 + w = 101 \Rightarrow 101, 102, 103, \dots, 999$$

$$n = \frac{999 - 101}{V} + 1 = 124$$

(۲)

$$n = 1 \Rightarrow a_1 + a_2 + a_3 = 1 \Rightarrow a_1 + d + a_1 + 2d + a_1 + 3d = 1$$

$$n = 2 \Rightarrow a_2 + a_3 + a_4 = 0 \Rightarrow a_1 + 2d + a_1 + 3d + a_1 + 4d = 0$$

$$3a_1 + 9d = 1 \Rightarrow 3d = -1$$

$$3a_1 + 9d = 0 \Rightarrow d = -1 = -1 \Rightarrow a_1 + 1d + a_1 + 2d = -1$$

(۲)

$$x^2 - 1 + x^2 - w = x^2 + 1$$

$$x^2 = 1$$

$$x^2 + 1x - w = 1$$

$$x^2 + 1x + 1 = 1$$

(۲)

$$x^2 + x^2 - 1 = x^2 + 1$$

$$x^2 + (x^2)^2 - x^2 + 1 = x^2$$

$$x^2 - 1 + 1 = 1, x^2 - 1 + 1 = 1 \Rightarrow x^2 = 1 \Rightarrow x = 1$$

$$a_1 + 4d + a_1 + 11d = 20 \Rightarrow 2a_1 + 15d = 20 \Rightarrow 2a_1 + 15d = 20$$

$$(a_1 + 11d) - (a_1 + 4d) = 15d = 20 \Rightarrow d = \frac{20}{15}$$

$$a_1 = -\frac{20}{3} \Rightarrow$$

(۲)

$$4n = \frac{\omega(n-1)}{r} \Rightarrow \frac{\omega(n-1)}{r} = \frac{V\omega}{r} \Rightarrow t_1 = \frac{V\omega}{r}$$

$$a_n = r n - r$$

1,8

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

$$r, r, 10, 15, 18 = s_5 = \frac{a_1}{r} (1 + r^5) = 50$$

$$r, r, r, r, r, 10, 15, 18 = s_8 = \frac{a_1}{r} (1 + r^8) = 100$$

$$\frac{r}{r} = \boxed{\frac{1}{r}} \text{ برابر}$$

$$\frac{a_8}{a_1} = \frac{100}{50} = \boxed{2}$$

$$t_n = t_{n-1} + d \Rightarrow d = a_2 - a_1 = 10 - 5 = 5 \Rightarrow \frac{a_2 - a_1}{r} = \frac{d}{r} = 5 \Rightarrow$$

$$t_n = a_n \Rightarrow (a_n)^2 - (a_1)^2 = 20a_n - 5a_1 = 100 \Rightarrow \frac{100}{5} = \boxed{20} \text{ برابر}$$

$$t_1 = a_1$$

$$t_2 = a_2$$

$$t_3 = a_3$$

2

$$a_1 = r(1 - r\sqrt{r})$$

$$a_{14} = r + \sqrt{r} = a_1 + 13d = r(1 - r\sqrt{r}) +$$

$$13d \Rightarrow r + \sqrt{r} = r + 13\sqrt{r} = 13d \Rightarrow 12\sqrt{r} = 13d \Rightarrow \boxed{d = \sqrt{144}}$$

2

$\sqrt{144}$

$$d = \frac{a_8}{r n - r} = \frac{a_8}{r(n-1)} = \frac{10}{r(n-1)} \Rightarrow \frac{10}{r(n-1)} = r + \frac{10(n-1)}{r(n-1)} = 11$$

2

$$r + \frac{10(n-1)}{r(n-1)} = 11 \Rightarrow 10(n-1) = r(n-1) \Rightarrow 10n = 11n - 10 \Rightarrow \boxed{n = 10}$$

$$a_n = a_1 + (n-1)d = 0 \Rightarrow a_n = r a_1 \frac{n}{r} \Rightarrow a_n = r a_1 \Rightarrow a_1 + (n-1)d = r a_1$$

$$-d + (n-1)d = 0 \Rightarrow a_1 + (n-1)d = \dots \rightarrow t_d = r d \rightarrow \boxed{t = r}$$

$$-d + (n-1)d = 0$$

$$\boxed{t_d = 0} \text{ gives } r d = 0$$

$$a_1 = -d$$

$$-d + n d - d = 0 \Rightarrow n d - 2d = 0 \Rightarrow d(n-2) = 0 \Rightarrow n = 2$$

$$a_n + a_{n+1} = a_r + a_{10} \rightarrow r n = 14 \rightarrow a_n = r a_f \rightarrow a_1 = -d$$