

۲۵ آفرین!

تاریخ: ۱۲ - ۱۳۹۰

نام: ...

امتحان ریاضی

$$t_n = 0, 9, 12, 14, \dots$$

۱- (۲)

الف) $t_n = 3n + 1$ ✓

ب) $t_{10} = 3 \times 10 + 1 = 31$ ✓

$$t_n = 9, 10, 14, 17, \dots \rightarrow t_n = 4n + 2$$

۲- (۲)

الف) $\frac{(t_{10} + t_1) \times 10}{2} = (31 + 9) \times 5 = 200$ ✓

ب) $a_n = 48, 112, 176, \dots \rightarrow a_n = 44n - 14$

$\rightarrow a_1 = (44 \times 1 - 14) = 30$ ✓

$$1 + \sqrt{3}, 2, 3 - \sqrt{3}, \dots$$

$t_n = (1 - \sqrt{3})n + 2\sqrt{3}$

۳- (۲)

$t_{10} - t_2 = t_{1+2d} - t_{1+2d} - 2d = 2(1 - \sqrt{3}) = 2 - 2\sqrt{3}$ ✓

$$a_n = 0^{(n)}, r \Delta 0^{(n)}, \Delta 0 \rightarrow 0^{(n)}, r \Delta 0^{(n)}, 0 \rightarrow d = r(0^{(n)}) \quad (r) \checkmark$$

$$b_n = x, r, y \rightarrow x, y, r \rightarrow y, x, r \rightarrow d = \frac{x+y}{r}$$

$$r \Delta 0^{(n)} + r(0^{(n)}) = 0^{(n)}(r+r) = 0^{(n)} \Delta 0 = 0^{(n+1)} \rightarrow y, r \Delta x, r$$

$$b_n = x + \frac{x+y}{r} = r \rightarrow r \Delta x + x = r \rightarrow r \Delta x = r - x = 1 \rightarrow y = r \quad \checkmark$$

$$\rightarrow x \Delta y = 1 \Delta r = r \quad \checkmark$$

$$c_n = \underbrace{r \Delta r}_{+r} \underbrace{r \Delta r}_{+r \Delta r} = 9r \Delta r \rightarrow r = r \Delta r \rightarrow r \Delta r = r - r = 0 \quad \checkmark \quad (r)$$

$$\rightarrow a_n = -r \Delta 0 \Delta r \Delta r \rightarrow a_n = \frac{r}{n} \Delta r \Delta r \rightarrow a_n = r - r = 0 \quad \checkmark$$

$$a_n = \underbrace{r \Delta 0}_{+r} \underbrace{\Delta r}_{+r} \Delta r \rightarrow a_n = r \Delta r \rightarrow a_n = r \Delta r = r - r = 0 \quad \checkmark \quad (r)$$

$$b_n = \underbrace{r \Delta 0}_{+r} \Delta r \rightarrow b_n = r \Delta r \rightarrow b_n = r \Delta r = r - r = 0$$

$$(i) \quad (r) \quad (r) \quad (r) \quad (v)$$

$$c_n = \underbrace{r \Delta r}_{+r} \underbrace{\Delta r}_{+r} \Delta r \rightarrow c_n = r \Delta r \rightarrow \max n, \boxed{V} \quad \checkmark$$

Subject

Date

$$\left. \begin{aligned} a_1 + a_2 + a_3 &= 11 \rightarrow r a_1 + r d + r 1 \\ a_1 + a_2 + a_3 &= 1.0 \rightarrow r a_1 + r d = 1.0 \end{aligned} \right\} \left. \begin{aligned} r d + r a_1 &= d + r 1 \\ r d + r a_1 &= 1.0 \end{aligned} \right\} \quad (r) \quad \checkmark$$

$$\left. \begin{aligned} r a_1 + r 1 &= r a_1 + r d + r 1 \rightarrow r a_1 + r d + r 1 = r 1 \\ a_1 + a_2 + a_3 &= ? = (r 1 + 0.4) - (r 1 + r 1) - r 1 = V \end{aligned} \right\} \frac{V}{-r} = \frac{1}{r} \quad \checkmark$$

$$a + a + d + a + r d = 10 \rightarrow r a + r d = 10 \rightarrow r(a + d) = 10 \rightarrow a + d = 10 \quad \checkmark$$

$$a + r d + a + r d = 10 \rightarrow r a + (r d + d) + r d = 10 + d + r d = 10 + 0.4 = 10.4$$

$$(r) \quad \begin{aligned} d &= \frac{1}{r} \\ a &= r \end{aligned}$$

$$a_1 = r \rightarrow a_n = r n - 1 \rightarrow a_{10} = r 9 \quad \checkmark$$

$$9.5r = 5a \rightarrow (r d + r a_1) \times \frac{r}{r} \times 9 = (1d + r a_1) \times \frac{9}{r} = 9 \quad (r) \quad \checkmark$$

$$\rightarrow (r d + r a_1) r V = (1d + r a_1) 9 \rightarrow 0.4 r d + 0.4 r a_1 = 9 r d + 11 r a_1$$

$$\rightarrow r a_1 = d \rightarrow 11d = -4 r a_1 \rightarrow -a_1 = (r a_1) (1 - n) + a_1 =$$

$$d(1 - n) + a_1 = a_n \rightarrow \frac{a_r}{a_v} = \frac{(a_1 (r \times r - 1))}{(a_1 ((r \times V) - 1))} = \frac{r 9}{1r} = r \quad \checkmark$$

Subject:

Date:

$$\left. \begin{array}{l} a_v = 20, a_1 = 11 \\ b_1 = 11, b_{n+1} = 1 \end{array} \right\} b_r = a_r$$

سؤال ٢

(2)

$$\rightarrow qd_{(0,1)} + a_1 = a_v$$

$$r = d_{(0,1)} \rightarrow qd_{(0,1)} = 2r \rightarrow qd_{(0,1)} + 11 = 20$$

$$\rightarrow a_n r (1+n) + 11 \rightarrow a_r = r \times r + 11 = 20$$

$$b_{r+n} = 1 \rightarrow d_{(0,1)} (1+n) + 11 = 1 \rightarrow \frac{20}{n+1} = d_{(0,1)}$$

$$\rightarrow d_{(0,1)} (1+n) = -10 \rightarrow \frac{20}{n+1} - 11 = \left(\frac{20}{n+1} \right) \times r + 11$$

$$= 2d_{(0,1)} + b_1 = b_r \rightarrow \frac{20}{n+1} - 11 = 2r \rightarrow b_r = a_r$$

$$\rightarrow 10 = \frac{20}{n+1} \rightarrow 0 = 1+n \rightarrow n = \boxed{9} \checkmark$$