

نام و نام خانوادگی: شماره کلاس: ۱۴ پاسخنامه تشریحی تکلیف شماره ۱۴ B

$$a_n = \frac{1}{r} \times (r)^{n-1} \quad a_{10} = a_{10} r^9 \rightarrow a_{10} = \frac{1}{r} \times r^9 = r^8 \quad (الف)$$

$$\frac{a_n}{a_{13}} = r^{14-13} \rightarrow r^1 = r^1 = r \quad (ب)$$

$$a_{13} \times a_{10} = \frac{1}{r} \times 1 \times \frac{1}{r} \times r^9 \rightarrow \sqrt{r^{-\frac{1}{r}} \times r^{\frac{1}{r}} = r^0} \Rightarrow r^0 \rightarrow r^0 = \frac{1}{r} \times r^{n-1} \rightarrow r^0 = r^{n-1} \rightarrow n-1 = 0 \rightarrow n = 1 \quad (ج)$$

$$\frac{1}{r} \times (r)^{n-1} = 1 \times 1 \rightarrow r^{n-1} = r^1 \rightarrow n-1 = 1 \rightarrow n = 2 \quad (د)$$

$$r^{10-0} = \frac{9 \times 1}{1 \times 1} \Rightarrow r^1 = 1 \rightarrow r = 1 \quad (الف)$$

$$a_1 \times r^9 = a_{10} \rightarrow a_{10} \times 1 = 1 \times 1 \rightarrow a_{10} = \frac{1 \times 1}{1} = 1 \quad (ب)$$

$$a_n = \frac{r}{r} \times (r)^{n-1} \rightarrow a_{10} = \frac{r}{r} \times r^9 = r^9 \times r^1 = r^{10} \quad (ج)$$

$$a_1 \times a_2 \times a_3 \times a_4 \times a_5 = r^4 \times r^3 \rightarrow a_{10} = r^4 \times r^3 \rightarrow a_{10} = r^7 \quad (الف)$$

$$a_1 \times a_{10} = a_5 \times a_5 \rightarrow a_1 \times a_{10} = a_5 \times a_5 \rightarrow a_1 \times a_{10} = a_5^2 \quad (ب)$$

$$a_1 \times a_{10} = a_5^2 \rightarrow r^0 \times r^9 = r^4 \times r^4 = r^8 \times r^0 = r^8 \rightarrow a + b = 0 \rightarrow \frac{a+b}{r} = 0$$

$$x^2 = (x+1)(1-x) \Rightarrow x^2 = x^2 + x + 1 - x = 1 - x^2 \rightarrow 1 - x^2 = 1 \rightarrow x^2 = 0 \rightarrow x = 0 \quad (الف)$$

$$a_1 + a_1 r^r = 11 \rightarrow a_1(1+r^r) = 11 \quad \left\{ \begin{array}{l} \frac{a_1 r^r (1+r^r)}{a_1 r (1+r)} = \frac{11}{r} \\ \frac{r^r - r}{r(r+1)} = \frac{r^r - r}{r} = \frac{11}{r} \end{array} \right.$$

$$a_1 r + a_1 r^r = 11 \rightarrow a_1 r(1+r) = 11$$

$$r = \frac{11}{r} \rightarrow r = \frac{11}{11} = 1$$

$$1, 3, 9, 27$$

$$a_1 + a_1 r + a_1 r^2 = 2V \rightarrow a_1 r^2 = 2V \rightarrow a_1 r = V \rightarrow a_1 r = V \rightarrow a_1 r = V$$

$$a_1 + a_1 r^r = 10 \rightarrow a_1(1+r^r) = 10 \rightarrow a_1(1+\frac{9}{a_1}) = 10 \rightarrow a_1(\frac{a_1+9}{a_1}) = 10$$

$$1, 3, 9, 27$$

$$a_1 r^r = 10 a_1 \rightarrow a_1^r - 10 a_1 + 9 = 0$$

$$(a_1 - 1)(a_1 - 9) = 0$$

$$a_1 = 9$$

$$q = r \rightarrow S_{10} = r \left(\frac{r^{10} - 1}{r - 1} \right) = r^{10} - 1$$

$$a_n = r \cdot (r)^{n-1}$$

$$\sqrt{(a_1 a_n)^n} \rightarrow \sqrt{(r \cdot r^{n-1})^n} = r^{n/2} \cdot r^{(n-1)/2} = r^{n/2}$$

$$a_1 = r \cdot (r)^{1-1} = r$$

$$a_1 + a_1 q + a_1 q^2 + a_1 q^3 + \dots \rightarrow a_1 + a_1 q' + a_1 q'^2 + a_1 q'^3 + \dots \rightarrow a_1(1-q) + a_1 q(1-q) + a_1 q^2(1-q) + \dots$$

$$q = q'$$

$$S_n = a_1 + a_1 r + a_1 r^2 + \dots + a_1 r^{n-1}$$

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$$r S_n = a_1 r + a_1 r^2 + a_1 r^3 + \dots + a_1 r^n$$

$$S_n - r S_n = a_1 - a_1 r^n$$

$$S_n(1-r) = a_1(1-r^n)$$

$$S_n = \frac{a_1(1-r^n)}{1-r}$$

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