

نام و نام خانوادگی علی حسینی پاسخنامه تشریحی تکلیف شماره ۱۵ کلاس پسر

$$S_7 = \cancel{\frac{1}{q}(a_1 + a_7)} = 21 \quad \text{دنباله هندسی است!}$$

$$\sqrt{(a_1 \times a_7)^3} = 9^3 \Rightarrow (a_1 \times a_7)^3 = 4.9^3 \Rightarrow a_1 \times a_7 = \sqrt[3]{4.9^3} = 4.9$$

$$(a_4)^3 = 9^3 \Rightarrow a_4 = 9$$

$$\Rightarrow \begin{cases} q = -2 \rightarrow -2, 4, -8 \\ q = 2 \rightarrow 2, 4, 8 \end{cases} \Rightarrow \text{با } q = -2 \text{ و } q = 2 \text{ سازگار نیست}$$

$$q \notin \mathbb{W}$$

$$\frac{a}{q} \times a \times aq = 9^3 \rightarrow a^3 = 9^3 \rightarrow a = 9$$

$$\frac{9}{q} + 9 + 9q = 21 \rightarrow \begin{cases} q = \frac{1}{9} \\ q = 9 \end{cases} \times \text{موردی خاص است!}$$

$$a_n = x^2 + 4, 5x, x^2 - 2 \quad (x^2 + 4)(x^2 - 2) = 5x^2 \Rightarrow x^4 + 2x^2 - 8 = 5x^2 \rightarrow x^4 - 3x^2 - 8 = 0 \rightarrow (x^2 - 4)(x^2 + 2) = 0$$

$$\Rightarrow x^2 = 4 \Rightarrow x = \begin{cases} -2 \rightarrow 1, -4, 2 \\ 2 \rightarrow 1, 4, 2 \end{cases} \Rightarrow \text{با } q = -2 \text{ و } q = 2 \text{ سازگار نیست}$$

$$\Rightarrow S_7 = a_1 \left(\frac{1 - q^7}{1 - q} \right) = 1 \left(\frac{1 - 1^7}{1 - 1} \right) = 1 \times 127 = 127$$

$$\frac{127}{1}$$

$$1 + q + q^2 + q^3 + q^4 = \frac{121}{11} \quad a_1 = 243$$

$$a_1 + a_1 q + a_1 q^2 + a_1 q^3 + a_1 q^4 = a_1 \times \left(\frac{1 - q^5}{1 - q} \right) = 243 \times \frac{121}{11} = 2727 \quad \checkmark$$

$$t_v = 9^4 \quad t_1 = 1 \Rightarrow 9d = 9^3 \Rightarrow d = 1, 0 \quad t_4 = A = t_1 + 3d = 1 + 3, 0 = 4, 0$$

$$a_v = 9^4 \quad a_1 = 1 \Rightarrow q^3 = 9^3 \Rightarrow q = \pm 9 \Rightarrow a_4 = B = t_1 q^3 = \begin{cases} 1 \times (-9) = -9 \\ 1 \times 9 = 9 \end{cases}$$

$$\Rightarrow A + B = \begin{cases} 4, 0 + 9 = 13, 0 \quad \checkmark \\ 4, 0 - 9 = -5, 0 \quad \checkmark \end{cases}$$

$$t_n: -24, -\frac{90}{4}, \dots \Rightarrow d = -\frac{90}{4} - (-24) = \frac{1}{4} \Rightarrow t_{1,1} = -24 + 1 \cdot d = -24 + \frac{1}{4} = -23\frac{3}{4}$$

$$a_n: 121, a_2, \dots \rightarrow a_1 = 121 \cdot q^4 = 1 \Rightarrow q^4 = \frac{1}{121} \Rightarrow q = \frac{1}{11} \quad \checkmark$$

