

۱۷، ۱۷، ۵

نام و نام خانوادگی: هجری شمسی: پاسخنامه تشریحی تکلیف شماره ۱۵... کلاس: دهه: فصل: A

$$a_1 + a_2 + a_3 = 21 \quad a_1 a_2 a_3 = 42 \rightarrow a_1 q^{-1} \times a_1 \times a_1 q^1 = 42 \rightarrow a_1^3 = 42$$

$$\rightarrow a_1 = \sqrt[3]{42}$$

$$\rightarrow a_1 q^{-1} + a_1 + a_1 q = 21 \rightarrow \left(\frac{42}{q} + 42 + 42q = 21\right) \times q \rightarrow 42 + 42q + 42q^2 = 21q$$

$$42q^2 - 17q + 42 = 0 \rightarrow \frac{17 \pm \sqrt{17^2 - 4 \times 42 \times 42}}{2 \times 42} = \frac{17 \pm 15}{84} = \frac{2}{7} \rightarrow q = \frac{2}{7}$$

$$\frac{x^2 + 2}{1}, \frac{2x}{x}, \frac{x^2 - 2}{x} \quad \left[\sin = a_1 \left(\frac{q^n - 1}{q - 1} \right) \rightarrow 1 \times \left(\frac{\left(\frac{2}{7} \right)^3 - 1}{\frac{2}{7} - 1} \right) = \frac{12}{1} \right]$$

$$\frac{2x}{x^2 + 2} = \frac{x^2 - 2}{2x} \rightarrow 2x^2 = x^4 - 1 + 2x^2 \rightarrow x^4 - 2x^2 - 1 = 0$$

$$x^2 = \frac{2 \pm \sqrt{(-2)^2 - 4 \times 1 \times -1}}{2} \rightarrow \frac{2 \pm 2}{2} \rightarrow x^2 = 0 \rightarrow x = 0 \rightarrow x = 2 \rightarrow x = -2$$

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$$a_1 + a_1 q + a_1 q^2 + a_1 q^3 + a_1 q^4 = 91 \left(1 + q + q^2 + q^3 + q^4 \right)$$

$$\rightarrow \frac{42^5 \times 91}{1} = 343$$

$$d = \frac{b-a}{f+1} \rightarrow \frac{42-1}{4} \rightarrow d = 10, 15, 1, 11, 5, 22, 32, 15, 53, 5, 42$$

$$q^{f+1} = \frac{b}{a} \rightarrow q^{5+1} = \frac{42}{1} \rightarrow q = 2 \quad 1, 2, 4, 8, 16, 32, 64$$

$$A+B \rightarrow 32, 5+1 = 37, 5 \quad q = -2 \quad a_5 = a_1 \times q^4 = -1 \quad A+B = 37, 5$$

$$-22, -22, 75, \dots \rightarrow \ln = \left(n \times \frac{1}{2} \right) - 22, 75 \rightarrow \ln_{101} = \left(101 \times \frac{1}{2} \right) - 22, 75 = 1$$

$$\frac{121}{1}, \frac{42}{1}, \frac{32}{1}, \frac{14}{1}, \frac{1}{1}, \frac{2}{1}, \frac{1}{1} \rightarrow q^{f+1} = \frac{1}{121} \rightarrow q = \frac{1}{11}$$

$$(q = \frac{1}{11})$$

$t_r = t_1 + 2d \quad t_v = t_1 + 4d \quad t_a = t_1 + 1d \quad \frac{t_1 + 2d}{-1d}, \frac{t_1 + 4d}{-2d}, \frac{t_1 + 1d}{-1d}$ $\frac{t_1 + 4d}{t_1 + 2d} = \frac{t_1 + 1d}{t_1 + 4d} \rightarrow t_1^2 + 10dt_1 + 14d^2 = t_1^2 + 4d^2 + 12dt_1$ $-4d^2 = 2dt_1 \rightarrow -10d = t_1 \rightarrow \frac{d}{t_1} = \frac{-1}{10}$	$\frac{t_1 + 1d}{-2d}$ ٦ این درستی چون تلفظ جبران می نرند
$t_r = t_1 + d \quad t_v = t_1 + 2d \quad t_a = t_1 + 4d \quad \frac{t_1 + d}{2d}, \frac{t_1 + 2d}{4d}, \frac{t_1 + 4d}{1d}$ $\frac{t_1 + 2d}{t_1 + d} = \frac{t_1 + 4d}{t_1 + 2d} \rightarrow t_1^2 + 11dt_1 + 10d^2 = t_1^2 + 9d^2 + 4dt_1 \rightarrow 2dt_1 = 2d^2$ $t_1 = d \checkmark \rightarrow \frac{1}{2}, \frac{1}{4}, 1, 2, 4, 8, 16, 32, 64, 128$	٧ جابجایی
$\frac{3q, 1q}{d}, \frac{2q, 1q}{d}, \frac{q, 1q}{d} \rightarrow 2q^2 - 2q, 1q = q, 1q^2 - 2q, 1q^2$ $\rightarrow q, 1q(2q - 3) = q, 1q^2(q - 2)$ $2q - 3 = q^2 - 2q \rightarrow -q^2 + 4q - 3 = 0 \rightarrow -(q - 1)(q - 3) = 0$ $(q = 3)$	٨ $q = 3$
$2, 1, 1/2, \dots \rightarrow t_n = (n \times \frac{1}{2}) + 2, 1/2 \quad t_r = 1, 1/2 \quad t_1 = 0, 1/2 \quad t_{13} = -1$ $\frac{1, 1/2 + d}{-1}, \frac{0, 1/2 + d}{-1/2}, \frac{-1 + d}{-3/2} \quad \frac{0, 1/2 + d}{1/2 + d} = \frac{-1 + d}{0, 1/2 + d} \rightarrow \frac{1}{14} + d + \frac{1}{8}d = -1/20 + 1/20d + \frac{1}{8}d$ $-0, 1/20d = 13/20 \rightarrow d = 13/20 \rightarrow -5/20$	٩ قدر نسبت
$a_1 + a_1q^2 + a_1q^4 = 7^3 \quad \frac{a_1}{1}, \frac{a_1q^2}{1}, \dots$ $1(a_1q^3 - a_1) = a_1q^4 - a_1q^2 \rightarrow 1a_1(q^3 - 1) = a_1q^2(q^2 - 1)$ $1a_1 = a_1q^2 \rightarrow 1 = q^2 \rightarrow q = 2 \rightarrow a_1 + 1a_1 + 4a_1 = 7^3 \rightarrow a_1 = 1$ $1 - 1 = \sqrt{\quad}$ $q = 1 \rightarrow 3a = 7^3 \rightarrow a = \frac{7^3}{3}$ $aq^3 - a = d \rightarrow \frac{7^3}{3} - \frac{7^3}{3} = d \rightarrow d = 0$	١٠ ١, ٥