

۱) $d_{10} = d_{1r^9} = \frac{1}{r^9} \times r^9 = r^0 = 1$ $dn = \frac{1}{r^9} \times r^9 = 1$
 ۲) $\frac{d_{1r^9}}{d_{1r^9}} = r^9 = r^9 = 1$
 ۳) $d_{1r^9} = \frac{1}{r^9} \times r^9 = r^0 = 1$ $d_{10} = d_{1r^9} = \frac{1}{r^9} \times r^9 = r^0 = 1$
 ۴) $d_{1r^9} = \frac{1}{r^9} \times r^9 = r^0 = 1$ $d_{10} = d_{1r^9} = \frac{1}{r^9} \times r^9 = r^0 = 1$

$d_{1r^9} = 1$ $d_{1r^9} = 1$ $d_{10} = d_{1r^9} = 1 \times r^0 = 1 \times r^0 = r^0 = 1$
 $r^9 = \frac{9}{1} = 9 \Rightarrow r = 3$ $d_{1r^9} = 1$
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$1-x$ x $x+1$ $x^2 = (1-x)(x+1) = 1 - x^2$
 $x^2 = (1-x)(x+1) = 1 - x^2$
 $x^2 = 1 - x^2$
 $x^2 = 1$
 $\Rightarrow x^2 = \frac{1}{r}$
 $\Rightarrow x = \pm \frac{1}{\sqrt{r}} = \pm \frac{1}{\sqrt{r}} \times \frac{\sqrt{r}}{\sqrt{r}} = \pm \frac{\sqrt{r}}{r}$ جواب سوال ۴۵

$(\sqrt{r})^2 \Rightarrow r \times r^b = r^{d+b}$ جواب سوال ۴۶
 $\Rightarrow d+b = 5 \Rightarrow \frac{d}{r} = \frac{5}{r} = 1, 5 \Rightarrow d+b = 5 \Rightarrow c = 1, 5$
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$$d_1 + d_2 = 2A = d_1 + d_1 r^2 = d_1(1 + r^2) \quad r=3 \quad 2vd_1 + d_1 = 2A$$

$$d_2 + d_3 = 12 = d_1 r + d_1 r^2 = d_1 r(1 + r) \quad d_1 \times 3 \quad 2vd_1 + d_1 = 2A \Rightarrow d_1 = 1$$

$$\frac{2A}{12} = \frac{d_1(1+r^2)}{d_1 r(1+r)} = \frac{r^2+1}{r(r+1)} = \frac{(r+1)(r^2+1-r)}{r(r+1)} = \frac{r^2+1-r}{r} \rightarrow 2Ar = 12r^2 - 2r$$

$$12r^2 - 12r + 12 - 2Ar = 0$$

$$12r^2 - 12r + 12 = 0$$

$$r - 12r + 12 = 0 \quad (r-3)(r-4) = 0 \quad r_1 = 3 \quad r_2 = 4 \rightarrow d_1 = 2V$$

$$d_1 + d_2 + d_3 = 13 \quad d_1 + d_1 r + d_1 r^2 = 13 \quad r=3 \rightarrow d_1 = \frac{13}{13} = 1$$

$$d_1 \times d_2 \times d_3 = 27 \quad d_1(1+r+r^2) = 13 \quad d_1 = 1$$

$$d_2^2 = 27 \Rightarrow d_2 = 3 \quad \frac{13}{r}(1+r+r^2) = 13 \quad d_2 = 3 \times 3 = 9 \quad d_3 = 9$$

$$d_1 = \frac{d_2}{r} = \frac{3}{3} = 1$$

$$1 + 3 + 9 = 13$$

$$1 \times 3 \times 9 = 27$$

$$d_n = 2, 4, 16 \quad S_0 \Rightarrow d_1(r^n - 1) = x(r^{10} - 1) \quad r=10 \rightarrow d_1 = \frac{10^{10} - 1}{10^{10} - 1} = 1$$

$$d_{10} = d_1 r^9 = 1 \times 10^9$$

$$\sqrt{(d_1 \cdot d_n)^n} = \sqrt{(2 \times 16)^{10}} = \sqrt{(32)^{10}} = 32^5 = 2^{10} \times 2^5 = 2^{15}$$

$$d_1, d_2, d_3, \dots, d_n$$

$$d_1, d_1 r, d_1 r^2, \dots, d_1 r^{n-1}$$

$$d_1 r - d_1 = d_1(r-1) \quad d_1 r^2 - d_1 r = d_1 r(r-1) \rightarrow d_1 r^2(r-1)$$

$$d_1 r^3 - d_1 r^2 = d_1 r^2(r-1) \rightarrow d_1 r^2(r-1)$$

$$d_1(r-1) \rightarrow d_1 r^2(r-1)$$

$$d_1(r-1) \rightarrow d_1 r^2(r-1)$$

$$S_n = \frac{n}{r} (rd + (n-1)d) \quad d_1, d_2, d_3, \dots, d_n$$

$$d_1, d_1 + d, d_1 + 2d, \dots, d_1 + (n-1)d$$

$$S_n = d_1 + d_1 + d + d_1 + 2d + \dots + d_1 + (n-1)d \quad S_n = d_1 + (n-1)d + d_1 + (n-2)d$$

$$rS_n = n(rd + (n-1)d) \Rightarrow S_n = \frac{n}{r} (rd + (n-1)d)$$

$$d_1, d_2, d_3, \dots, d_n$$

$$d_1, d_1 r, d_1 r^2, \dots, d_1 r^{n-1}$$

$$S_n = d_1 + d_1 r + d_1 r^2 + \dots + d_1 r^{n-1}$$

$$rS_n = d_1 r + d_1 r^2 + d_1 r^3 + \dots + d_1 r^n$$

$$S_n - rS_n = d_1 - d_1 r^n$$

$$(1-r)S_n = d_1(1-r^n)$$