

$$d = \frac{a_m - a_n}{m - n} = \frac{91 - 15}{7} = 12$$

$$a_n = 15 + (n-1)12$$

$$201 = 15 + 12n \Rightarrow 186 = 12n \Rightarrow n = 15.5 \checkmark$$

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$$100 \leq 7n+3 \leq 999$$

$$97 \leq 7n \leq 996$$

$$14 \leq n \leq 142$$

$$142 - 14 + 1 = 129 \checkmark$$

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$$r(a_{n+2}) = -4_{n+12} \Rightarrow a_{n+2} = -2_{n+2}$$

$$a_1 = a_{9+2} = -12 + 2 = -10$$

$$a_{14} = a_{10+2} = -20 + 2 = -18 \quad -18 + (-10) = -28 \checkmark$$

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$$2^n \times 2^n - 3, \quad 2^n \times 2, \quad 2^n - 1$$

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$$3 \times (2^n \times 2) = 2^{n+2} \checkmark$$

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$$2^n \times 2^n - 3 + 2^n - 1 = 2^n \times 4$$

$$2^n \times 2^n + 2^n = 2^n \times 4 + 3 \quad 2^n(2^n + 1) = 4(2^n + 1) \Rightarrow n = 2 \checkmark$$

$$a_{10} = a_1 + 9d \quad a_{14} = a_1 + 11d$$

$$a_{14} - a_{10} = a_1 + 11d - a_1 - 9d = 2d \Rightarrow d = 2/5 \checkmark$$

$$a_{14} + a_{10} = 2a_1 + 20d = 20 \Rightarrow 2a_1 + 8 = 20 \Rightarrow a_1 = 6 \checkmark$$

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$$a_{21} = a_1 + 20d = 6 + 8 = 14 \checkmark$$

$$a_1 + ar + ar + ar + ar + a_0 = \frac{1}{r} (a_0 + a_1 + a_2 + a_3 + a_4 + a_5)$$

$$0ar = \frac{1}{r} \times \partial a_1$$

$$ar = \frac{1}{r} (ar + \partial d) \quad ar = \frac{ar}{r} + \frac{\partial d}{r} \Rightarrow \frac{rar}{r} = \frac{\partial d}{r}$$

$$\frac{ar}{a_1} = \frac{ar - d}{ar - rd} = \frac{r\partial d - d}{r\partial d - rd} = r \quad \checkmark \quad ar = r\partial d$$

$$t_n - t_{n-r} = 10 \Rightarrow rd = 10 \Rightarrow d = 0$$

$$\frac{t_1 - t_0}{tv} = \frac{(t_1 - t_0)(t_1 + t_0)}{tv} = \frac{r\partial d (rar + rd)}{a_1 + rd} = r_0 \quad \checkmark$$

$$\frac{r + \sqrt{r} - r(1 - 9\sqrt{r})}{1r} = \frac{1r\sqrt{r}}{1r} = \sqrt{r} \quad \checkmark$$

$$d = \frac{rr - r}{rn - r}$$

$$\frac{r_0}{rn - r} = \frac{r}{n} \Rightarrow 10n = 1rn - 9 \Rightarrow n = r \quad \checkmark$$

$$d = \frac{11 - r}{n}$$

$$a_{n+r} + a_n = a_{1r} + ar \Rightarrow h + r + h = r \Rightarrow n = 1$$

$$a_1 = ra_f$$

$$a_1 + vd = ra_1 + 9d$$

$$ra_1 + rd = 0 \quad r(a_1 + d) = 0$$

$\checkmark$ $\Rightarrow$ $1 = 9$ $\Rightarrow$ $n = 9$