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$$a_n = r_{n+1}$$

(1)

$$a_0, a_1, a_2, \dots$$

$$a_{10} = \varepsilon(10) + 1 = \overline{13}$$

$$491013911, \dots$$

$$a_n = \varepsilon n + r$$

$$a_1, a_2, a_3, a_4, a_5, a_6, a_7, a_8, a_9, a_{10}, a_{11}, a_{12}, \dots$$

(1) (2)

$$s_n = \frac{n}{p}(a_1 + a_n) = \frac{10}{p}(r_{10} + r) = \overline{130} \int$$

$$a_1 = r(1) + r = r_{10}$$

$$a_{11} = \varepsilon(11) + r = \varepsilon 4$$

$$\frac{\varepsilon}{p}(\varepsilon 4 + r_{10}) = \overline{140} \int$$

$$d = +1 - \sqrt{p}$$

$$a_{10} = a_1 + r_{10}$$

$$1 + \sqrt{p} + r_{10}(1 - \sqrt{p})$$

$$a_n = a_1 + (n-1)r$$

(3)

$$1 + \sqrt{p} + r_{10} - r_{10}\sqrt{p} = r_{10} - r_{10}\sqrt{p}$$

$$a_{10} = a_1 + r_{10}$$

$$1 + \sqrt{p} + r_{10}(1 - \sqrt{p}) = 1 + \sqrt{p} + r_{10} - r_{10}\sqrt{p} = r_{10} - r_{10}\sqrt{p}$$

$$r_{10} - r_{10}\sqrt{p} - (r_{10} - r_{10}\sqrt{p}) = \boxed{r_{10} - r_{10}\sqrt{p}}$$

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$$a + a + d + a + 4d = 10 \rightarrow a + d = 2$$

$$a + 4d + a + 8d = 14$$

$$2a + 12d = 14$$

$$2(a - d) + 12d = 14 \rightarrow 10 - 2d + 12d = 14$$

$$10d = 4 \rightarrow d = \frac{2}{5}$$

$$a_{10} = a + 9d = 2 + (9 \times \frac{2}{5}) = \frac{28}{5}$$

$$S_n = \frac{n}{2} (a_1 + a_n) \quad \frac{9}{2} [2a_1 + 17d] = 9 \times \frac{17}{2} [2a_1 + 17d] \quad \frac{a_{10}}{a_7} = \frac{17}{9}$$

$$9a_1 + 17d = 17a_1 + 17d \rightarrow 9a_1 + 17d = 17a_1 + 17d = 9d = 17a_1$$

$$d = \frac{17}{9} a_1 \quad a_n = \frac{1}{2} a_1 + (n-1)d \rightarrow a_{10} = a_1 + 9d = 17a_1, \quad a_7 = a_1 + 6d = 11a_1$$

$$a_1 = 11 \quad a_1 = 11 \quad d = \frac{17}{9}$$

$$a_7 = 11 + 6d = 11 + 11 = 22$$

$$a_{10} = 11 + 9d = 11 + 17 = 28$$

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$$a_1 + a_p + a_q = 10 \quad a_1 + a_p + a_q = 11 \quad (Z)$$

$$\frac{V}{-11} = -\frac{1}{11} \quad \frac{V}{-11} = -\frac{1}{11} \quad \frac{V}{-11} = -\frac{1}{11}$$

$$11a_1 + 11d = 11 \rightarrow 11a_1 = -11 \quad a_1 = -1$$

$$11a_1 + 4d = 10 \rightarrow 11(-1) + 4d = 10 \rightarrow 4d = 21 \rightarrow d = \frac{21}{4}$$

$$a_{10} - a_7 = d + a_1$$

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