

$$S_1 = a_1 + a_2 + a_3 + a_4 + a_5 = a_1 + (1+2+3+4)d = a_1 + 10d$$

$$S_2 = a_2 + a_3 + a_4 + a_5 + a_6 = a_2 + (1+2+3+4+5)d = a_2 + 15d$$

$$S_1 = \frac{1}{2} S_2 \Rightarrow a_1 + 10d = \frac{1}{2} (a_2 + 15d) \Rightarrow a_1 = \frac{5d}{2}$$

$$\frac{a_2}{a_1} = \frac{\frac{7d}{2}}{\frac{5d}{2}} = \boxed{\frac{7}{5}}$$

$$a_1 + (n-1)d + 1a = a + (n-1)d \Rightarrow d = a$$

$$\Rightarrow r_0 = a + r_0 < r_9 = a + r_0 < r_v = a + r_0$$

$$\Rightarrow (a + r_0)^r - (a + r_0)^r = r_0 (r_0 + r_0) =$$

$$\frac{r_0 (r_0 + r_0)}{a + r_0} = \frac{(a + r_0)(r_0)}{a + r_0} = \boxed{r_0}$$

$$a_1 = r \times (1 - \sqrt{r}) = r - r\sqrt{r} \Rightarrow \frac{r - r\sqrt{r}}{1 - \sqrt{r}} =$$

$$t_{1f} = a + 13d = r + \sqrt{r} \Rightarrow r - r\sqrt{r} + 13d = r + \sqrt{r} \Rightarrow$$

$$13d = (r + \sqrt{r}) - (r - r\sqrt{r}) = r\sqrt{r} \Rightarrow d = \frac{r\sqrt{r}}{13} = \boxed{\frac{r\sqrt{r}}{13}}$$

$$t_{n-1} = r + (n-1)d = r + (n-1)d = r + (n-1)d$$

$$\Rightarrow r_0 = (r + (n-1)d)$$

$$t_{n+1} = 11 \Rightarrow nd = 9 \Rightarrow d = \frac{9}{n}$$

$$\Rightarrow r + \frac{10}{n} = r_0 \Rightarrow n = \boxed{3}$$

$$a_{n+1} + a_n = a_r + a_s \Rightarrow a_1 + (n-1)d + a_1 + (n-1)d = a_1 + rd + a_1 + sd$$

$$\Rightarrow (2n+2-1)d = (2n-1)d = 2(n-1)d = 0$$

$$a_n = r \cdot \frac{d}{p}$$

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$$a_6 = a_1 + 5d = 91 \Rightarrow 5 + 5d = 91 \Rightarrow d = 18$$

$$\Rightarrow a_n = 5n + 18 = 113 \Rightarrow 5n = 95 \Rightarrow n = 19$$

$a_1 = 1, a_n = 99$ } $\Rightarrow d = 18$

$$a_n = a_1 + (n-1)d \Rightarrow 99 = 1 + (n-1)18 \Rightarrow n = 19$$

$$a_{n+1} = a + nd \leq a_{n+1} = a + (n+1)d, a_{n+2} = a + (n+2)d$$

$$\Rightarrow a_{n+1} + a_{n+2} + a_{n+3} = 3a + (3n+3)d = 3(a + (n+1)d)$$

$$3(a + (n+1)d) = -3n + 12 \Rightarrow d = -1 \Rightarrow a_n = 4 + (n-1)(-1)$$

$$\Rightarrow a_n = 5 - n \Rightarrow a_n = -1, a_{19} = -14 \Rightarrow a_1 + a_{19} = -9$$

$$a_n = \frac{a_1 + a_n}{2} \Rightarrow r^{n+1} = \frac{(r^2 - 1) + (r^{2n} - 1)}{2} \Rightarrow r^{n+1} = \frac{r^2 + r^{2n} - 2}{2}$$

$$\Rightarrow r = 2 \Rightarrow a_2 = 2, a_1 = 1, a_{19} = 18$$

$$1 + 1 + 18 = 20$$

$$a_{12} - a_{10} = 6 \Rightarrow (a_1 + 11d) - (a_1 + 9d) = 2d = 6 \Rightarrow d = 3$$

$$a_2 + a_0 = 26 \Rightarrow (a_1 + d) + (a_1 - d) = 2a_1 = 26 \Rightarrow a_1 = 13$$

$$\Rightarrow a_{21} = a_1 + 20d = 13 + 20 \times 3 = 73$$