

$$\textcircled{6} \quad a_{26} = 0$$

$$a + 25d = 0 \dots \textcircled{1}$$

$$a_{11} = 3$$

$$a + 10d = 3 \dots \textcircled{11}$$

$$\textcircled{11} - \textcircled{1}$$

$$-15d = 3$$

$$\Rightarrow d = \frac{3}{-15}$$

$$\Rightarrow d = -\frac{1}{5}$$

Sub  $\textcircled{11}$

$$a + 10 \times -\frac{1}{5} = 3$$

$$a = 5$$

$$a_n = -\frac{1}{5}$$

$$a + (n-1)d = -\frac{1}{5}$$

$$5 + (n-1)\left(-\frac{1}{5}\right) = -\frac{1}{5}$$

$(\times 5)$

$$25 - n + 1 = -1$$

$$-n = -1 - 1 - 25$$

$$\Rightarrow n = 27$$

$$\textcircled{7} \quad a_5 + a_7 = 52$$

$$a + 4d + a + 6d = 52$$

$$\Rightarrow 2a + 10d = 52$$

$$\Rightarrow a + 5d = 26 \dots \textcircled{1}$$

$$a_{10} = 46$$

$$a + 9d = 46 \dots \textcircled{11}$$

$$\textcircled{11} - \textcircled{1}$$

$$4d = 20$$

$$\Rightarrow d = 5$$

Sub  $\textcircled{1}$

$$a + 5 \times 5 = 26$$

$$\Rightarrow a = 26 - 25$$

$$\Rightarrow a = 1$$

AP is 1, 6, 11, ...

$$\textcircled{8} \quad a_{11} - a_7 = 24$$

$$a + 10d - a - 6d = 24$$

$$\Rightarrow 4d = 24$$

$$\Rightarrow d = 6$$

$$a_{20} = a + 19d$$

$$= 12 + 19 \times 6$$

$$= 12 + 114$$

$$= 126$$

$$\textcircled{9} \quad a_9 = 0$$

$$a + 8d = 0 \dots \textcircled{1}$$

$$\frac{a_{29}}{a_{19}}$$

$$= \frac{a + 28d}{a + 18d}$$

$$= \frac{-8d + 28d}{-8d + 18d}$$

$$[a + 8d = 0]$$

$$\Rightarrow a = -8d$$

$$\frac{a_{29}}{a_{19}} = \frac{20d}{10d}$$

$$\Rightarrow a_{29} = 2a_{19}$$