

$$\frac{-23}{(296)} \quad \frac{m^2}{n^2} = \frac{S_m}{S_n} = \frac{\frac{m}{2} [2a_1 + d(m-1)]}{\frac{n}{2} [2a_1 + d(n-1)]} \quad / : \frac{m}{n}$$

$$\frac{m}{n} = \frac{2a_1 + d(m-1)}{2a_1 + d(n-1)} \rightarrow \begin{aligned} 2a_1 m + md(n-1) &= 2a_1 n + nd(m-1) \\ 2a_1(m-n) &= ndm - nd - mnd + md \\ 2a_1(m-n) &= d(m-n) \end{aligned}$$

$$\downarrow$$

$$\boxed{2a_1 = d}$$

$$\frac{a_m}{a_n} = \frac{a_1 + d(m-1)}{a_1 + d(n-1)} = \frac{a_1 + 2a_1(m-1)}{a_1 + 2a_1(n-1)} = \frac{a_1(1+2m-2)}{a_1(1+2n-2)} = \frac{2m-1}{2n-1}$$