

4.25
1c2

$$a_1 = ?$$

$$S_n = 2520$$

$$d = -40$$

$$S_{n+3} = 3000$$

$$2520 = \frac{n}{2} [2a_1 - 40(n-1)]$$

$$3000 = \frac{n+3}{2} [2a_1 - 40(n+2)]$$

$$\left\{ \begin{array}{l} 5040 = 2a_1 n - 40n^2 + 40n \quad /: 2 \\ 6000 = (n+3)(2a_1 - 40n - 80) \quad /: 2 \end{array} \right.$$

$$\left\{ \begin{array}{l} 2520 = a_1 n - 20n^2 + 20n \quad (*) \\ 3000 = a_1(n+3) - 20n^2 - 60n - 40n - 120 \end{array} \right.$$

$$480 = 3a_1 - 120n - 120 \quad /: 3$$

$$a_1 = 160 + 40n + 40 = 40n + 200$$

$$2520 = (40n + 200)n - 20n^2 + 20n \quad (*) \rightarrow 213)$$

$$2520 = 20n^2 + 220n \quad /: 20$$

$$n^2 + 11n - 126 = 0$$

$$n = -18$$

$$\boxed{n=7}$$

$$\boxed{a_1=480}$$