

Ex. 23/p.44

$$\begin{array}{ccc} t_1 & t_2 & t_3 \\ \underbrace{\quad} & \underbrace{\quad} & \\ r & r & \end{array}$$

$$r = \frac{t_2}{t_1} = \frac{t_3}{t_2} \quad (\Rightarrow) \boxed{t_2^2 = t_1 \cdot t_3}$$

solve for x .

$$\begin{aligned} (2x+1)^2 &= (x+2)(4x-3) \\ \cancel{4x^2} + 4x + 1 &= \cancel{4x^2} - 3x + 8x - 6. \end{aligned}$$

$$4x+1 = 5x-6.$$

$$1+6 = 5x-4x$$

$$\boxed{x=7}$$

$$\Rightarrow t_1 = 7+2=9$$

$$t_2 = 2 \cdot 7 + 1 = 14 + 1 = 15$$

$$t_3 = 4 \cdot 7 - 3 = 28 - 3 = 25 \quad \left\{ \begin{array}{l} \text{The seq. is} \\ 9, 15, 25 \end{array} \right.$$

common ratio

$$r = \frac{25}{15} = \frac{5 \cdot 5}{5 \cdot 3} = \frac{5}{3}$$

$$r = \frac{5}{3}$$
