



$$\Delta O_3 O_1 A \sim \Delta O_3 O_2 B \text{ (S.S)}$$

$$\frac{O_3 O_1}{O_3 O_2} = \frac{O_1 A}{O_2 B} \rightarrow \frac{a_3 - a_1}{a_3 + a_2} = \frac{a_1}{a_2}$$

$$a_2 a_2 - a_1 a_2 = a_3 a_1 + a_2 a_1$$

$$a_2(a_2 - a_1) = 2a_1 a_2$$

$$a_3 = \frac{2a_1 a_2}{a_2 - a_1} \rightarrow \frac{1}{a_3} = \frac{a_2 - a_1}{2a_1 a_2}$$

$$\frac{2}{a_3} = \frac{a_2 - a_1}{a_1 a_2} = \frac{1}{a_1} - \frac{1}{a_2}$$

$a_3 = xq$ $a_1 = \frac{x}{q}$ $a_2 = x$ | NO | \therefore
 $\frac{2}{xq} = \frac{q}{x} - \frac{1}{x} \cdot xq$ \therefore q for a_3

$$2 = q^2 - q \rightarrow q^2 - q - 2 = 0 \rightarrow q = 2$$

~~$q = -1$~~