

15(c) $R = (3i - j + k)t$ and

$$R = (-6i + 2j - 2k)t + 2i$$

we have $\begin{cases} \frac{x}{3} = \frac{y}{-1} = \frac{z}{1} \\ \frac{x-2}{-6} = \frac{y}{2} = \frac{z}{-2} \end{cases}$ from $\begin{cases} \frac{x}{3} = \frac{y}{-1} \\ \frac{x-2}{-6} = \frac{y}{2} \end{cases}$ we find there is no solution

thus there is ~~no~~ no intersection point

Another way: Also, we change the parameter of the second line

we get $\begin{cases} R = 3t i - t j + t k \\ R = (-6m+2)i + 2mj - 2mk \end{cases}$

the coefficients of i, j, k are equal

$$\Rightarrow \begin{cases} 3t = -6m+2 \\ -t = 2m \\ t = -2m \end{cases} \quad \text{we find no solution}$$

hence, there is no intersection point