Section 1.8.

15(a) $R = (5i + 4j + 5k)t + 7i + 6j + 8k$ and

$R = (6i + 4j + 6k)t + 8i + 6j + 9k$

we get: $\begin{cases} \dfrac{x-7}{5} = \dfrac{y-6}{4} = \dfrac{z-8}{5} & ① \\ \dfrac{x-8}{6} = \dfrac{y-6}{4} = \dfrac{z-9}{6} & ② \end{cases}$ from $\begin{cases} \dfrac{x-7}{5} = \dfrac{y-6}{4} \\ \dfrac{x-8}{6} = \dfrac{y-6}{4} \end{cases}$, we have $\begin{cases} x=2 \\ y=2 \end{cases}$

plug ① with $x=2, y=2$, we get $z=3$, it also satisfies ②

thus $(2, 2, 3)$ is the point of intersection

Anothe way: we change the parameter of the second line.

$$\begin{cases} R = (5t+7)i + (4t+6)j + (5t+8)k \\ R = (6m+8)i + (4m+6)j + (6m+9)k \end{cases}$$

$\because$ the coefficients are equal,

$$\begin{cases} 5t+7 = 6m+8 \\ 4t+6 = 4m+6 \\ 5t+8 = 6m+9 \end{cases} \Rightarrow \begin{cases} t=-1 \\ m=-1 \end{cases}$$

$\therefore$ the point of intersection is $(2, 2, 3)$