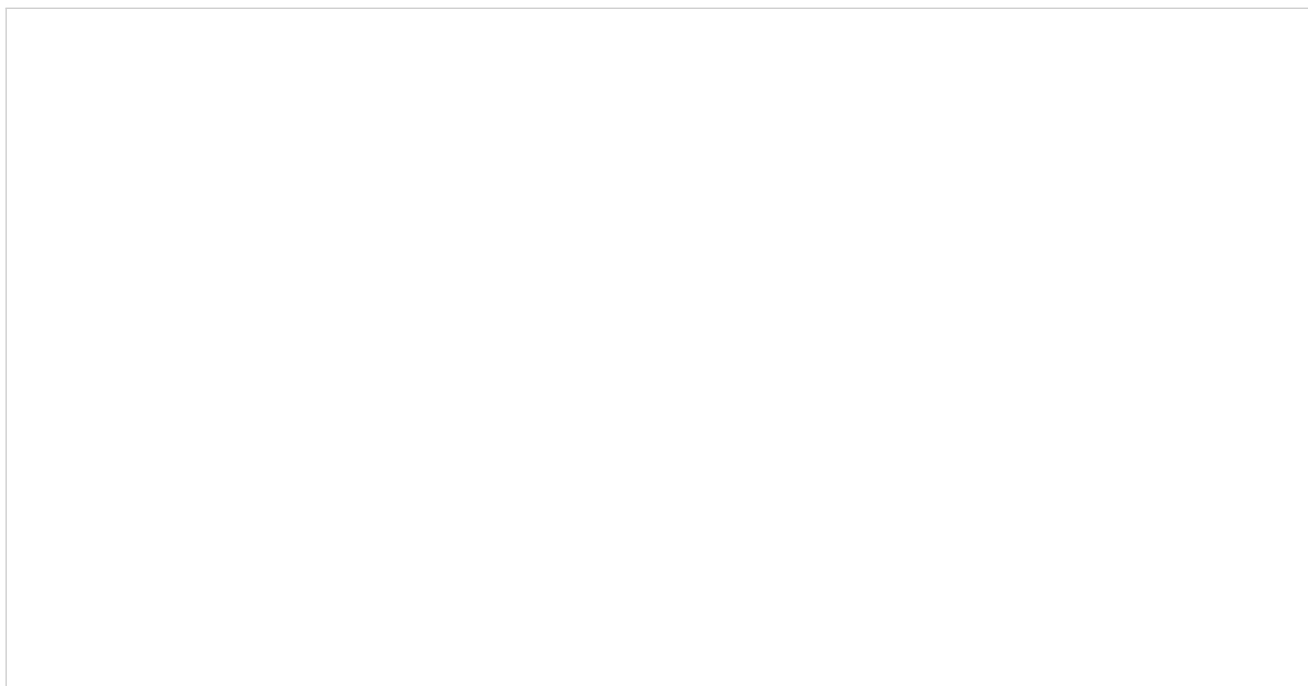# Lesson 8. Equations of Lines and Planes in 3D

1 Today...

- Practice with equations of lines and planes in 3D
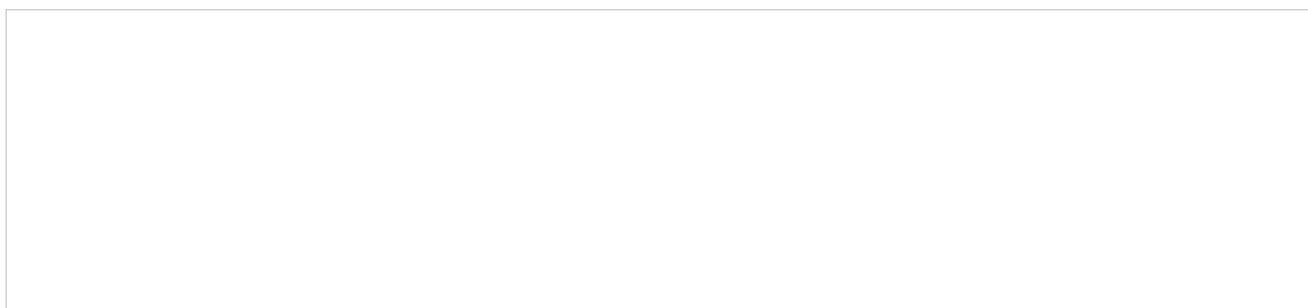
Example 1. Find an equation of the plane that passes through the points $P(1, 2, 3)$, $Q(3, 6, -1)$ and $R(5, 0, 2)$.

Example 2. Find the point at which the line

$$x = 1 + 2t, \quad y = 4t, \quad z = 2 - 3t$$

intersects the plane $x + 2y - z + 1 = 0$.

Example 3. Find an equation of the plane that passes through the point $(1, 2, 3)$ and contains the line $x = 3t$, $y = 1 + t$, $z = 2 - t$.