## Exercise 28

Do the lines (x, y, z) = (t + 4, 4t + 5, t - 2) and (x, y, z) = (2s + 3, s + 1, 2s - 3) intersect?

## Solution

The lines will intersect if their components are equal for some values of t and s. Setting t = -1and s = 0 results in

x = 3 and y = 1 and z = -3

for both lines. Therefore, the point (3, 1, -3) is where the lines intersect.