EXERCISES #7

LINES AND PLANES, CONTINUED

Exercise 1. Find the distance between the given objects.

(1) The point $A = (3, -1, 0)$ and the line $L_1 : x = -1 - t, y = 4 - 2t, z = -3 + 2t$.
(2) The point $A = (-2, 1, 2)$ and the plane $P_1 : -6x + 3y + 6z = -2$.
(3) The line $L_1 : x = 2 - 3t, y = 2t, z = 3 - 2t$ and the plane $P_1 : 2x - 6y - 9z = 3$.
(4) The line $L_1 : x = -18 + 3t, y = -4 + 2t, z = -11 + t$ and the plane $P_1 : x + 2y + z = 3$.
(5) The line $L_1 : x = 5+t, y = -2+t, z = 6t$ and the line $L_2 : x = 7-s, y = -s, z = 5-6s$.
(6) The line $L_1 : x = 3 + 2t, y = 1 + t, z = 5 - t$ and the line $L_2 : x = 5 - s, y = 2 - 2s, z = 3 - 4s$.
(7) The plane $P_1 : -x + 3y - 4z = 11$ and the plane $P_2 : 11x + 4y - 3z = 0$
(8) The plane $P_1 : 3x - 2y + 2z = -5$ and the plane P_2 that passes through $A = (0, 3, 1)$, $B = (-2, 0, 1)$ and $C = (4, 8, 0)$.