

1. (30 points) Find the equation of a plane with a normal vector  $(1, 4, 1)$  and a point  $(1, 2, 3)$ .
2. (30 points) Determine whether the planes  $2x - 3y - z = 0$  and  $4x - 6y - 2z = 3$  are parallel. Justify your answer to receive credit.