

1. Find the equation of the plane whose intercepts are
 $(0,0,5)$, $(0,2,0)$ and $(0,0,6)$.
2. Show that the line through $(-2,4,0)$, $(1,1,1)$ and the line through
 $(2,3,4)$, $(3, -1, -8)$ are not perpendicular.
3. Find the range of the function $f(x, y) = 3x^2 + 2y^2 + 3$.