

Name \_\_\_\_\_

- Write as neatly as you can!
- No calculators are allowed.
- You must show your work to obtain full credit.

1. (*5 points*) Find a parametric equation of the line through the point  $(1, 2, -1)$  and perpendicular to both  $\mathbf{i} + \mathbf{j}$  and  $\mathbf{j} - 2\mathbf{k}$ .

2. (*5 points*) Find the equation of the plane through the point  $(2, 2, 9)$  and perpendicular to the line  $x = 2t$ ,  $y = 1 + 2t$ , and  $z = 4 - t$ .