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Show all work to receive full credit. Supply explanations when necessary.

1. (4 points) Give parametric equations for two distinct parallel lines. Then find the distance between your lines.
2. (3 points) Find a set of parametric equations for a line perpendicular to the line described by the symmetric equations

$$
\frac{x-6}{3}=y+5=\frac{z+2}{7} .
$$

3. (3 points) Find an equation of the plane that is equidistant from the points $(3,4,5)$ and ( $7,2,1$ ).
