Math 241: Quiz 5

Show ALL Work   Name _____

For all three problems below, A is the point $(1, -3, 2)$ and ℓ is the line given by

$$x = 1 + 2t$$
$$y = 2 + 3t$$
$$z = 1 - 2t.$$

1. Find an equation for the plane $\mathcal{P}$ satisfying the point A is on the plane $\mathcal{P}$ and the line ℓ is perpendicular to the plane $\mathcal{P}$.

   Equation of plane $\mathcal{P}$: ⬚

2. The line ℓ and the plane $\mathcal{P}$ (in the previous problem) intersect at some point B. Calculate B.

   The point B: ⬚

3. What is the shortest distance from the point A to the line ℓ? We have done this type of question in different ways. If you did the first two problems correctly, though, you should be able to use what you found above to answer this problem quickly.

   Distance from A to ℓ: ⬚