Hw 4

Math 321

Exercises in 1.7 (more)

#8 (Use the answer to #7 or one hw problem you did before), #9(Same as #10), #12, #13, #14

Exercises in 1.8

Below, #3 means the third question in this section starting with "▷" below equation 65*.*

#3(To make clear which problem I mean, I write the statement of this problem here: What is the distance between the point $\vec{r}_1$ and the plane through $\vec{r}_0$ parallel to $\vec{a}$ and $\vec{b}$)
#4 #5
More: In #4, assume the equation for the lines are $L_1 : x = 1 + 2t, y = -1 - 3t, z = 3 + t$ and $L_2 : x = -3 - t, y = 4 + 3t, z = 5 - t$. Find one possible A, one possible $\vec{a}$, one possible B and one possible $\vec{b}$. Use your formula in #4 to calculate the distance here. (Basically, this is what you learned in Math222, but in another form.)

Exercises in 1.9

Do all the problems starting with "▷" in this section.

Exercises in 1.10

(I ignore the units and assume the units are consistent.) Assume one car starts to move from still. If the velocity of the car and the acceleration satisfy $\vec{v} \cdot \vec{a} = 2t$. The mass of the car is 1. At what time is the speed 4? Is the power constant? What's the average power? (Assume the energy is conserved.)

I'll give more problems for this section in the next set of hw.