Problem Set Solutions Week 5 and 6

1. The answer for the following
   a. $x = -1 + t, \ y = 4 + 2t, z = 2 + 3t$
   b. (0, 6,5)
2. $x = t, \ y = 6 + 2t, z = 5 + 3t$
3. 2x+3y+4z=12, intercepts are (6,0,0), (0,4,0) and (0,0,3)
4. $\vec{n} = -\vec{i} + 3\vec{j} + 2\vec{k}$
5. $-4x + y - 6z - 43 = 0$
6. Find the vector normal for the first plane and show that 2 times the vector is the other vector normal is applicable.
7. $16/\sqrt{14}$
8. $7/3\sqrt{6}$
9. $\frac{x-1}{-1} = \frac{y+5}{2} = \frac{z-6}{-3}$
10. $x = 1, \ y = -t, z = t$
11. $x = 1 + t, \ y = -1 + 2t, z = 1 + t$
12. $-13x + 17y + 7z + 42 = 0$
13. x $= 1, \ y - 2 = -z$
14. (2,3,5)
15. $3x + 4y = 11$
16. (0,2)
17. $2\sqrt{5}$
18. Show the lengths of the sides are all equal and also use Pythagorean's theorem
19. Show the two points are the same
20. $\frac{x-1}{2} = \frac{y+1}{0} = \frac{z-2}{1}$
21. (2,1,-1)
22. $3x + 4y + 5z - 25 = 0$