

1. Find an equation of the plane that passes through the point  $(1, -1, 1)$  and contains the line of an equation  $x = 2y = 3z$ .
2. Find the cosine of the angle between the planes  $x + y + z = 0$  and  $x + 2y + 3z = 1$ .
3. Find an equation for the surface obtained by rotating the line  $x = 3y$  about the  $x$ -axis.
4. Find the derivative of the vector function  $\mathbf{r}(t)$ ,

$$\mathbf{r}(t) = \left\langle \tan t, \sec t, \frac{1}{t^2} \right\rangle.$$

Course Homework due Feb 12, Wed.

Feb 3, Mon. : **12.4** 1, 5, 9, 13, 27, 33. **12.5** 3, 7, 11, 19, 25, 27, 31, 61

Feb 5, Wed. : **12.6** 3, 5, 9, 13, 19, 21-28 (total 8 problems), 41, 43

Feb 7, Fri. : **13.1** 9, 19-24 (total 6 problems), 25, 35. **13.2** 9, 11, 13, 15, 19