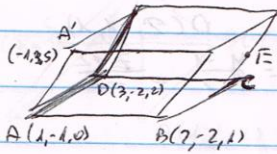


4.21  
5



$$\vec{AB} \begin{vmatrix} x-1 & y+1 & z \\ 1 & -1 & 1 \end{vmatrix} = \quad (1)$$

$$\vec{AD} \begin{vmatrix} 2 & -1 & 2 \end{vmatrix} =$$

$$-1(x-1) + 0(y+1) + 1 \cdot z = 0$$

$$-x + z = -1$$

$$C = D + \vec{AB} = (4, -3, 3)$$

$$C' = C + \vec{AA}' = (2, 1, 8) \quad (2)$$

$$E = (3, -1, 5\frac{1}{2})$$

$$\vec{AE} = (1, -1, 0) + t(2, 0, 5\frac{1}{2}) \rightarrow \frac{x-1}{4} = \frac{z}{11}, y = -1$$

$$\vec{AC} = (3, -2, 3) \quad \vec{AC'} = (1, 7, 8), \quad \cos \alpha = \frac{(3, -2, 3) \cdot (1, 7, 8)}{\sqrt{22} \sqrt{69}} = \frac{23}{\sqrt{22} \sqrt{69}} \quad (3)$$

$$(-1, 3, 5) + t(-1, 0, 1)$$

$$d = \frac{1+5+1}{\sqrt{2}} = \frac{7}{\sqrt{2}}$$

$$(-1-t, 3, 5+t)$$

$$\frac{7}{\sqrt{2}} = \frac{|(-1-t) + 5 + t + 1|}{\sqrt{2}}$$

$$7 = 1 + 2t$$

$$t = 0$$

$$t = 7 \rightarrow (6, 3, -2)$$