

S 90 Nr. 9 a)

$$g: \vec{x} = \vec{OM}_{EH} + t \cdot \vec{M}_{EH} M_{BC}$$

$$E(-4|1|-3), H(-4|1|3)$$

$$B(2|9|-3) \quad C(2|9|3)$$

$$M_{EH} \left(\frac{-4-4}{2} \mid \frac{1+1}{2} \mid \frac{-3+3}{2} \right) = (-4|1|0)$$

$$M_{BC} \left(\frac{2+2}{2} \mid \frac{9+9}{2} \mid \frac{-3+3}{2} \right) = (2|9|0)$$

$$g: \vec{x} = \begin{pmatrix} -4 \\ 1 \\ 0 \end{pmatrix} + t \begin{pmatrix} 2 - (-4) \\ 9 - 1 \\ 0 - 0 \end{pmatrix} = \begin{pmatrix} -4 \\ 1 \\ 0 \end{pmatrix} + t \begin{pmatrix} 6 \\ 8 \\ 0 \end{pmatrix}$$

$$h: \vec{x} = \vec{OH} + t \cdot \vec{HM}_{AB}$$

$$H(-4|1|3) \quad A(2|1|-3)$$

$$B(2|9|-3)$$

$$M_{AB} \left(\frac{2+2}{2} \mid \frac{1+9}{2} \mid \frac{-3-3}{2} \right) = (2|5|-3)$$

$$h: \vec{x} = \begin{pmatrix} -4 \\ 1 \\ 3 \end{pmatrix} + t \begin{pmatrix} 2 - (-4) \\ 5 - 1 \\ -3 - 3 \end{pmatrix} = \begin{pmatrix} -4 \\ 1 \\ 3 \end{pmatrix} + t \begin{pmatrix} 6 \\ 4 \\ -6 \end{pmatrix}$$

$$i: \vec{x} = \vec{OM}_{HG} + t \cdot \vec{M}_{HG} M_{FG}$$

$$H(-4|1|3) \quad G(-4|9|3)$$

$$F(-4|9|-3)$$

$$M_{HG} \left(\frac{-4-4}{2} \mid \frac{1+9}{2} \mid \frac{3+3}{2} \right) = (-4|5|3)$$

$$M_{FG} \left(\frac{-4-4}{2} \mid \frac{9+9}{2} \mid \frac{-3+3}{2} \right) = (-4|9|0)$$

$$i: \vec{x} = \begin{pmatrix} -4 \\ 5 \\ 3 \end{pmatrix} + t \begin{pmatrix} -4 - (-4) \\ 9 - 5 \\ 0 - 3 \end{pmatrix} = \begin{pmatrix} -4 \\ 5 \\ 3 \end{pmatrix} + t \begin{pmatrix} 0 \\ 4 \\ -3 \end{pmatrix}$$

$$j: \vec{x} = \vec{OM}_{AH} + t \cdot \vec{M}_{AH} M_{DG}$$

$$A(2|1|-3) \quad H(-4|1|3)$$

$$D(2|1|3) \quad G(-4|9|3)$$

$$M_{AH} \left(\frac{2-4}{2} \mid \frac{1+1}{2} \mid \frac{-3+3}{2} \right) = (-1|1|0)$$

$$M_{DG} \left(\frac{2-4}{2} \mid \frac{1+9}{2} \mid \frac{3+3}{2} \right) = (-1|5|3)$$

$$j: \vec{x} = \begin{pmatrix} -1 \\ 1 \\ 0 \end{pmatrix} + t \begin{pmatrix} -1 - (-1) \\ 5 - 1 \\ 3 - 0 \end{pmatrix} = \begin{pmatrix} -1 \\ 1 \\ 0 \end{pmatrix} + t \begin{pmatrix} 0 \\ 4 \\ 3 \end{pmatrix}$$