

Lösung S.93/24b

$$|\vec{MP}| = 5$$

$$|\vec{MP}|^2 = 25$$

$$\vec{MP}^2 = 25$$

$$(x_1 - 4)^2 + (x_2 - 1)^2 + (x_3 + 1)^2 = 25$$

Lösung S.93/26c

Mitte M zwischen C und B:

$$\vec{M} = \frac{\vec{C} + \vec{B}}{2} = \frac{\begin{pmatrix} 4 \\ 0 \\ 1 \end{pmatrix} + \begin{pmatrix} 10 \\ -8 \\ 9 \end{pmatrix}}{2} = \frac{1}{2} \begin{pmatrix} 14 \\ -8 \\ 10 \end{pmatrix} = \begin{pmatrix} 7 \\ -4 \\ 5 \end{pmatrix}$$

$$s_a = |\vec{AM}| = \sqrt{AM^2} = \sqrt{(7-4)^2 + (-4-2)^2 + (5-(-1))^2} = \sqrt{3^2 + 6^2 + 6^2} = \sqrt{81} = 9$$