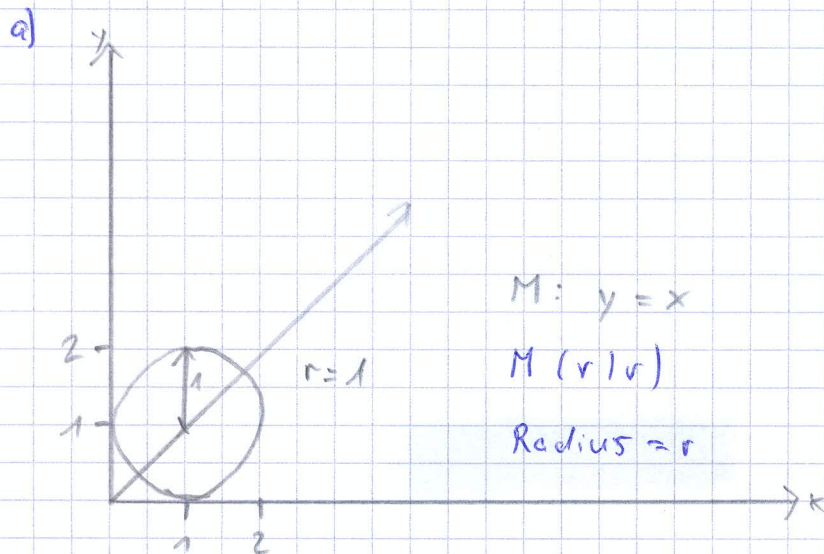


02.11.09 S.141 Nr. 8



$$(y-r)^2 + (x-r)^2 = r^2$$

$$(2-r)^2 + (1-r)^2 = r^2$$

$$4 - 4r + r^2 + 1 - 2r + r^2 = r^2$$

$$r^2 - 6r + 5 = 0$$

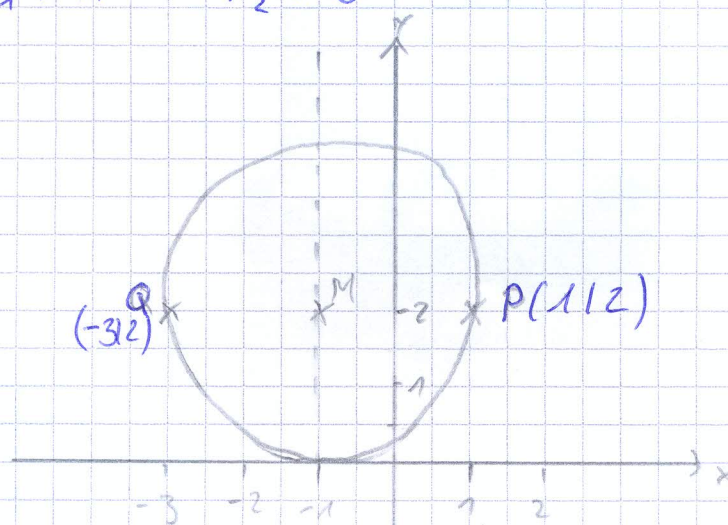
$$r^2 - 6r + 9 + 5 - 9 = 0$$

$$(r-3)^2 = 4 \quad | \sqrt{\quad}$$

$$\Leftrightarrow r-3 = \pm 2$$

$$\Rightarrow r_1 = 1 \quad r_2 = 5$$

b)



$$(x+1)^2 + (y-r)^2 = r^2$$

$$P(1|2) \Rightarrow (1+1)^2 + (2-r)^2 = r^2 \Leftrightarrow \dots \Leftrightarrow r=2$$

$$4+4-4r+r^2=r^2 \Leftrightarrow 8=4r$$

S. 141 Nr. 7 a)

Thomas F.

A(0|0) B(8|-2)

$$\left[ \begin{pmatrix} 0 \\ 0 \end{pmatrix} - \begin{pmatrix} x \\ y \end{pmatrix} \right]^2 = 17^2 \quad \left[ \begin{pmatrix} 8 \\ -2 \end{pmatrix} - \begin{pmatrix} x \\ y \end{pmatrix} \right]^2 = 17^2$$

$$(0-x)^2 + (0-y)^2 = (8-x)^2 + (-2-y)^2$$

$$x^2 + y^2 = 64 - 16x + x^2 + 4 + 4y + y^2$$

$$0 = 68 - 16x + 4y$$

$$4y = 16x - 68$$

$$y = 4x - 17$$

Einsetzen

$$x^2 + y^2 = 17^2$$

$$x^2 + (4x - 17)^2 = 17^2$$

$$x^2 + 16x^2 - 136x + 289 = 289$$

$$x^2 + 16x^2 - 136x = 0$$

$$17x^2 - 136x = 0$$

$$17x \cdot (x - 8) = 0$$

$$x_1 = 0 \vee x_2 = 8$$

$$\Downarrow \quad \Downarrow$$

$$y = -17 \vee y = 15$$

$$\Rightarrow \left[ \begin{pmatrix} 0 \\ 0 \end{pmatrix} - \begin{pmatrix} 0 \\ -17 \end{pmatrix} \right]^2 = 17^2 \quad \left[ \begin{pmatrix} 0 \\ 0 \end{pmatrix} - \begin{pmatrix} 8 \\ 15 \end{pmatrix} \right]^2 = 17^2$$