

# MATH 271 – Homework #7

due 12 March 2009

**All calculations must be done in Matlab!**

1) Plot the circle

$$(x - 3)^2 + (y + 1)^2 = 16 \tag{1}$$

in two different ways:

a) Solve (1) for  $y$  and then graph  $y$  using an appropriate vector  $x$ .

b) Choose a parameter  $t$ . Then define both  $x$  and  $y$  in terms of  $t$ . This method must be substantially different from the method of part a).

2) Use the Matlab commands `polyfit` and `polyval` to find a fifth-degree polynomial that passes through the points  $(-1, 1)$ ,  $(0, 2)$ ,  $(2, 4)$ ,  $(3, 3)$ ,  $(4, 10)$  and  $(5, 7)$ . Then plot these points and this interpolating polynomial on the same set of axes.