

Figure 1

The second, somewhat more complex example, Fig. 2, animates the geometric construction of a scarabaeus. In addition to the use of a timeline, it introduces the layer concept. This example is adapted from Maxime Chupin's original METAPOST source file [1]. The present version separates stationary from moving parts of the drawing and saves them into different files. A total of 254 files, scarab_0.mps through scarab_253.mps, is written out by running 'mpost --tex=latex' on the source file 'scarab.mp'. Files 0 through 100 contain the red line segments that make up the growing scarabaeus. Files 101 through 201 contain the moving construction lines and files 202 through 252 contain the gray lines which represent intermediate stages of the construction. The last file, No. 253, contains the coordinate axes, two stationary construction lines and the labels which do not move. A timeline file 'scarab.tln' is written out on-the-fly during the \LaTeX run. It arranges the animation into three layers, forcing the gray lines into the background, the coordinate axes into the intermediate layer and the scarabaeus along with the moving construction lines into the foreground. The final animation consists of 101 individual frames.

```
\documentclass{article}
\usepackage{intcalc} %defines \intcalcMod for Modulo computation
\usepackage{animate}
\usepackage{graphicx}

\newcounter{scarab}
\setcounter{scarab}{0}
\newcounter{blueline}
\setcounter{blueline}{101}
\newcounter{grayline}
\setcounter{grayline}{202}

%write timeline file
```