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Programming assignment #2

due 3-13

Write a routine which converts a conic in implicit form:

$$a_1x^2 + a_2y^2 + a_3xy + a_4x + a_5y + a_6 = 0$$

into rational quadratic form when its endpoints $\mathbf{b}_0$ and $\mathbf{b}_2$ are known.

Experiment with the conic $xy - 4 = 0$ and

$$\mathbf{b}_0 = \begin{bmatrix} 4 \\ 1 \end{bmatrix}, \quad \mathbf{b}_2 = \begin{bmatrix} 2 \\ 2 \end{bmatrix}.$$

What is z_1? Then work with ten circles from the family of circles passing through

$$\mathbf{b}_0 = \begin{bmatrix} -1 \\ 0 \end{bmatrix}, \quad \mathbf{b}_2 = \begin{bmatrix} 1 \\ 0 \end{bmatrix}.$$

Also record their middle weights.

Hand in: plots, with the weights annotated.