

Open Graphing Calculator.

Use the equation window and the “easy buttons” for algebra and arithmetic.

1.

a) Classify the conic: $x^2 + 4y^2 = 10$

b) Graph and verify. Make a sketch at right.

c) Now graph: $x^2 + xy + 4y^2 = 10$.

Make a sketch at right.

Form a hypothesis about the effect of the xy term.

d) Now graph: $x^2 + 3xy + 4y^2 = 10$.

Make a sketch.

Modify your hypothesis if necessary

e) Now graph: $x^2 + 5xy + 4y^2 = 10$.

Make a sketch.

Does your hypothesis still hold?
