Identifying Conic Sections **Name:**

Introduction to Calculus

Identify each conic section below as an ellipse, circle, hyperbola, or parabola.

a) $x^2 - 3y^2 = 12$

b) $2x^2 + 3y^2 = 6$

c) $x^2 = y^2 - 12$

d) $x^2 + (y-3)^2 = 9$

e) $x^2 + y^2 - 2x + 6y = 10$

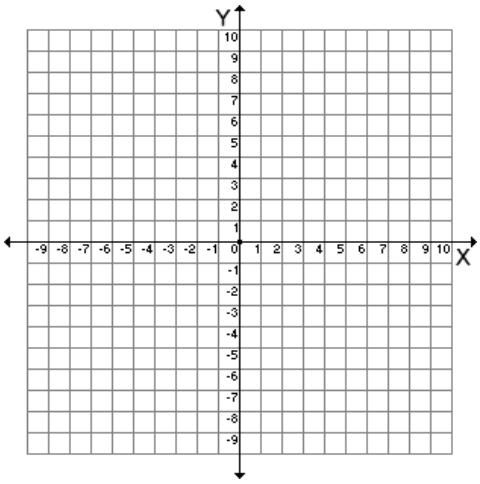
f) $\frac{12}{x} = y$

g) $7x^2 - 2y = 7 - y^2$

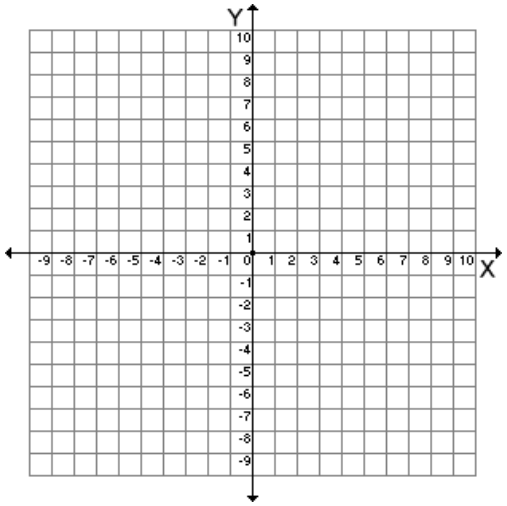
h) $2x^2 = y - 5$

2 Sketch each conic section given. Clearly identify all x and y intercepts.

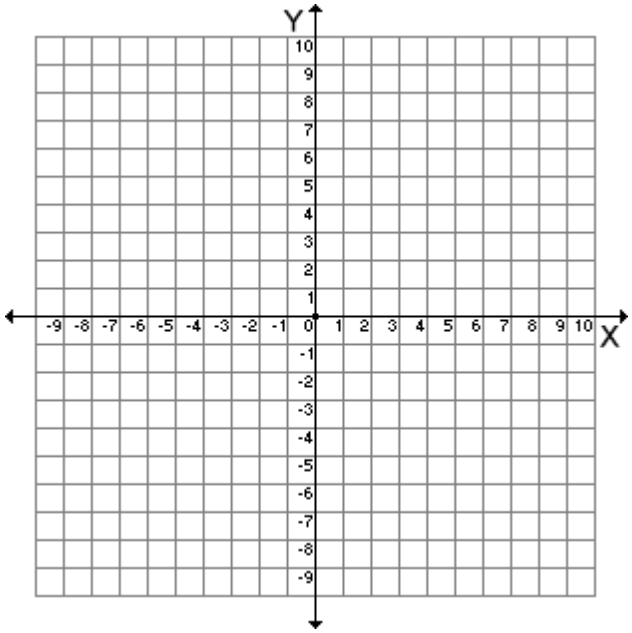
a) $x^2 - 2y^2 = 16$



b) Sketch $x^2 + 2y^2 = 36$



3 Graph $(x-3)^2 + (y+2)^2 = 25$



4 The variables x and y vary inversely. When x is 20, y is 18. Find x when y is 3.

5 The loudness of a speaker varies inversely as the square of the distance of the listener from the speaker. If a speaker has a loudness of 54 decibels when someone is 12 ft from the speaker, find the loudness for someone 8 ft from the speaker. Round answer to the nearest decibel.