TECHNICAL CALCULUS I

Fall 1994

Exam 1

Name _____

**1.** Find equation of the straight line which passes through the intersection of the lines $5x - y - 6 = 0$, $x + y - 12 = 0$ and is perpendicular to the first line. Sketch its graph.

**2.** Find the equation of the parabola with focus $(1, -4)$ and directrix $x = 2$. Sketch its graph.

**3.** Find the equation of the ellipse with vertices at $(1, 5)$, $(1, -1)$ foci at $(1, 4)$ and $(1, 0)$. Sketch its graph.

**4.** Find the equation of the hyperbola with center at $(2, 0)$ vertex at $(3, 0)$ conjugate axis $6$. Sketch its graph.

**5.** Identify the curves:

(a) $y^2 + 42 = 2 \times (10 - x)$

(b) $2(2x^2 - y) = 8 - y^2$

(c) $2xy + x - 3y = 6$