

Section 9.5: Nonlinear Systems of Equations

Video 1

1) Solve.

$$\begin{aligned}x^2 + 9y^2 &= 9 \\x - 3y &= 3\end{aligned}$$

2) Solve.

$$x^2 - 2y = 8$$

$$x^2 + y^2 = 16$$

Video 2

3) Solve.

$$16x^2 + 25y^2 = 400$$

$$x^2 + y^2 = 16$$

4) Solve.

$$9x^2 + 4y^2 = 87$$

$$x^2 - 2y^2 = 6$$

Video 3

5) Solve.

$$x^2 + xy + y^2 = 21$$

$$x^2 - xy + y^2 = 9$$

Video 4

6) Solve.

$$x^2 + y^2 = 25$$

$$y = |x| + 2$$

Video 5

7) Solve.

$$x^2 + y^2 = 6$$

$$3x^2 + 2y^2 = 8$$

Video 6

8) A rectangle has a perimeter of 20 cm and an area of 24 square cm. Find its dimensions.

9) A box with an open top has a square base and four sides of equal height. The volume of the box is 384 m^3 , and the surface area is 256 m^2 . Find the dimensions of the box. Round to the nearest tenth if necessary.