

Watch. Practice. Understand. | Lesson 243

The Secret of Solving Non Linear System of Equations Pre Calculus 9 1

Watch the matching video: <https://www.youtube.com/watch?v=Shg0IR3EpH4>

Practice focus: Nonlinear systems

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Solve $x^2 + y^2 = 25$ and $y = 3$.

02 Solve $y = x^2$ and $y = 2x + 3$.

03 Solve $xy = 6$ and $x + y = 5$.

04 Explain why solving only $x^2 = 16$ as $x = 4$ can lose a solution.

Worked answers | Lesson 243

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Practice focus: Nonlinear systems

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01 Solve $x^2 + y^2 = 25$ and $y = 3$.

$x^2 + 9 = 25$, so $x = \pm 4$. Solutions (4,3), (-4,3).

02 Solve $y = x^2$ and $y = 2x + 3$.

$x^2 - 2x - 3 = 0$, so $x = 3$ or -1 . Points (3,9) and (-1,1).

03 Solve $xy = 6$ and $x + y = 5$.

$x(5 - x) = 6$ gives $(x - 2)(x - 3) = 0$. Points (2,3) and (3,2).

04 Explain why solving only $x^2 = 16$ as $x = 4$ can lose a solution.

Both 4 and -4 square to 16. Both must be checked in the original system.