

Secret of Classifying Conic Sections in Less Than A Minute

Lesson 135 | Algebra II | Classifying conic sections

https://www.youtube.com/watch?v=K1RF_mxzsDE

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Classify $12x^2 + 5y^2 = 1$ and $12x^2 - 5y^2 = 1$. Explain the coefficient-sign test.

02

Classify $11x^2 + 5y^2 = 1$ and $11x^2 - 5y^2 = 1$. Explain the coefficient-sign test.

03

Classify $2x^2 + 6y^2 = 1$ and $2x^2 - 6y^2 = 1$. Explain the coefficient-sign test.

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04

Classify $13x^2 + 11y^2 = 1$ and $13x^2 - 11y^2 = 1$. Explain the coefficient-sign test.

05

Classify $9x^2 + 11y^2 = 1$ and $9x^2 - 11y^2 = 1$. Explain the coefficient-sign test.

06

Classify $3x^2 + 7y^2 = 1$ and $3x^2 - 7y^2 = 1$. Explain the coefficient-sign test.

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01

Classify $12x^2 + 5y^2 = 1$ and $12x^2 - 5y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.

02

Classify $11x^2 + 5y^2 = 1$ and $11x^2 - 5y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.

03

Classify $2x^2 + 6y^2 = 1$ and $2x^2 - 6y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.

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04

Classify $13x^2 + 11y^2 = 1$ and $13x^2 - 11y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.

05

Classify $9x^2 + 11y^2 = 1$ and $9x^2 - 11y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.

06

Classify $3x^2 + 7y^2 = 1$ and $3x^2 - 7y^2 = 1$. Explain the coefficient-sign test.

The first has two positive unequal squared-term coefficients: ellipse. The second has opposite signs: hyperbola. Neither is a parabola; a circle would require equal same-sign coefficients after common scaling.