

Secret of solving and graphing Conic Sections Part II Hyperbola and Parabola

Lesson 134 | Algebra II | Hyperbolas

<https://www.youtube.com/watch?v=gfjYCRsCqkk>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Analyze $(x-7)^2/4 - (y-13)^2/16=1$: center, vertices, foci, and asymptotes.

02

Analyze $(x-7)^2/4 - (y-10)^2/121=1$: center, vertices, foci, and asymptotes.

03

Analyze $(x-(-7))^2/144 - (y-9)^2/121=1$: center, vertices, foci, and asymptotes.

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04

Analyze $(x-(-2))^2/9 - (y-10)^2/121=1$: center, vertices, foci, and asymptotes.

05

Analyze $(x-(-3))^2/100 - (y-7)^2/9=1$: center, vertices, foci, and asymptotes.

06

Analyze $(x-(-2))^2/49 - (y-4)^2/25=1$: center, vertices, foci, and asymptotes.

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01

Analyze $(x-7)^2/4 - (y-13)^2/16=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (7,13); vertices (5,13),(9,13); foci $(7\pm\sqrt{20},13)$; asymptotes $y-13=\pm(4/2)(x-7)$.

02

Analyze $(x-7)^2/4 - (y-10)^2/121=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (7,10); vertices (5,10),(9,10); foci $(7\pm\sqrt{125},10)$; asymptotes $y-10=\pm(11/2)(x-7)$.

03

Analyze $(x-(-7))^2/144 - (y-9)^2/121=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (-7,9); vertices (-19,9),(5,9); foci $(-7\pm\sqrt{265},9)$; asymptotes $y-9=\pm(11/12)(x-(-7))$.

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04

Analyze $(x-(-2))^2/9 - (y-10)^2/121=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-2,10)$; vertices $(-5,10),(1,10)$; foci $(-2\pm\sqrt{130},10)$; asymptotes $y-10=\pm(11/3)(x-(-2))$.

05

Analyze $(x-(-3))^2/100 - (y-7)^2/9=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-3,7)$; vertices $(-13,7),(7,7)$; foci $(-3\pm\sqrt{109},7)$; asymptotes $y-7=\pm(3/10)(x-(-3))$.

06

Analyze $(x-(-2))^2/49 - (y-4)^2/25=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-2,4)$; vertices $(-9,4),(5,4)$; foci $(-2\pm\sqrt{74},4)$; asymptotes $y-4=\pm(5/7)(x-(-2))$.