

Conic Section Hyperbola

Lesson 147 | Algebra II | Hyperbolas

https://www.youtube.com/watch?v=J_6mOG4SVVo

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Analyze $(x-5)^2/64 - (y-3)^2/25=1$: center, vertices, foci, and asymptotes.

02

Analyze $(x-7)^2/36 - (y-11)^2/169=1$: center, vertices, foci, and asymptotes.

03

Analyze $(x-(-4))^2/169 - (y-2)^2/25=1$: center, vertices, foci, and asymptotes.

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04

Analyze $(x-(-1))^2/36 - (y-8)^2/9=1$: center, vertices, foci, and asymptotes.

05

Analyze $(x-(-2))^2/81 - (y-3)^2/64=1$: center, vertices, foci, and asymptotes.

06

Analyze $(x-(-7))^2/64 - (y-5)^2/81=1$: center, vertices, foci, and asymptotes.

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01

Analyze $(x-5)^2/64 - (y-3)^2/25=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (5,3); vertices (-3,3),(13,3); foci $(5\pm\sqrt{89},3)$; asymptotes $y-3=\pm(5/8)(x-5)$.

02

Analyze $(x-7)^2/36 - (y-11)^2/169=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (7,11); vertices (1,11),(13,11); foci $(7\pm\sqrt{205},11)$; asymptotes $y-11=\pm(13/6)(x-7)$.

03

Analyze $(x-(-4))^2/169 - (y-2)^2/25=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center (-4,2); vertices (-17,2),(9,2); foci $(-4\pm\sqrt{194},2)$; asymptotes $y-2=\pm(5/13)(x-(-4))$.

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04

Analyze $(x-(-1))^2/36 - (y-8)^2/9=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-1,8)$; vertices $(-7,8),(5,8)$; foci $(-1\pm\sqrt{45},8)$; asymptotes $y-8=\pm(3/6)(x-(-1))$.

05

Analyze $(x-(-2))^2/81 - (y-3)^2/64=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-2,3)$; vertices $(-11,3),(7,3)$; foci $(-2\pm\sqrt{145},3)$; asymptotes $y-3=\pm(8/9)(x-(-2))$.

06

Analyze $(x-(-7))^2/64 - (y-5)^2/81=1$: center, vertices, foci, and asymptotes.

Horizontal hyperbola: center $(-7,5)$; vertices $(-15,5),(1,5)$; foci $(-7\pm\sqrt{145},5)$; asymptotes $y-5=\pm(9/8)(x-(-7))$.