

Pre Calculus 5 4 2nd Half Tangent and Cotangent Graphs

Lesson 223 | Precalculus | Tangent, cotangent, secant and cosecant graphs

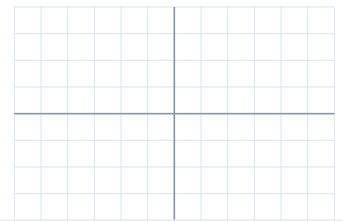
https://www.youtube.com/watch?v=Y0Y0Nb_D27E

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

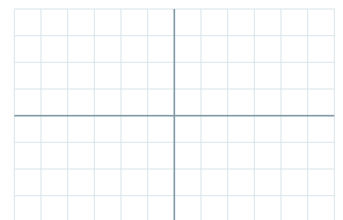
Graph $y=9\tan(2(x-(-2)))+13$. Give period, center, and adjacent vertical asymptotes.

**02**

Analyze $y=12\cot(6(x-5)))+13$: period, asymptotes, and a central point between consecutive asymptotes.

03

Graph $y=9\tan(6(x-(-5)))+2$. Give period, center, and adjacent vertical asymptotes.



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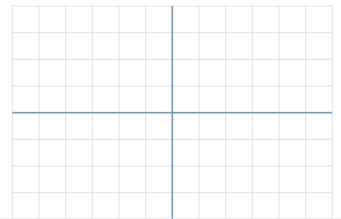
Name: _____ Date: _____ Show your reasoning.

04

Analyze $y=3\cot(7(x-(-7)))+7$: period, asymptotes, and a central point between consecutive asymptotes.

05

Graph $y=7\tan(4(x-(-3)))+3$. Give period, center, and adjacent vertical asymptotes.

**06**

Analyze $y=2\cot(2(x-(6)))+13$: period, asymptotes, and a central point between consecutive asymptotes.

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01

Graph $y=9\tan(2(x-(-2)))+13$. Give period, center, and adjacent vertical asymptotes.

Period $\pi/2$; center $(-2,13)$; asymptotes $x=-2\pm\pi/4$. At $x=-2\pm\pi/8$, $y=13\pm9$, respectively. Repeat every $\pi/2$.

02

Analyze $y=12\cot(6(x-(5)))+13$: period, asymptotes, and a central point between consecutive asymptotes.

Period $\pi/6$. Asymptotes $x=5+k\pi/6$, k integer. Between $x=5$ and $x=5+\pi/6$, the midpoint is $(5+\pi/12,13)$; cotangent decreases there.

03

Graph $y=9\tan(6(x-(-5)))+2$. Give period, center, and adjacent vertical asymptotes.

Period $\pi/6$; center $(-5,2)$; asymptotes $x=-5\pm\pi/12$. At $x=-5\pm\pi/24$, $y=2\pm9$, respectively. Repeat every $\pi/6$.

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04

Analyze $y=3\cot(7(x-(-7)))+7$: period, asymptotes, and a central point between consecutive asymptotes.

Period $\pi/7$. Asymptotes $x=-7+k\pi/7$, k integer. Between $x=-7$ and $x=-7+\pi/7$, the midpoint is $(-7+\pi/14, 7)$; cotangent decreases there.

05

Graph $y=7\tan(4(x-(-3)))+3$. Give period, center, and adjacent vertical asymptotes.

Period $\pi/4$; center $(-3, 3)$; asymptotes $x=-3\pm\pi/8$. At $x=-3\pm\pi/16$, $y=3\pm 7$, respectively. Repeat every $\pi/4$.

06

Analyze $y=2\cot(2(x-(6)))+13$: period, asymptotes, and a central point between consecutive asymptotes.

Period $\pi/2$. Asymptotes $x=6+k\pi/2$, k integer. Between $x=6$ and $x=6+\pi/2$, the midpoint is $(6+\pi/4, 13)$; cotangent decreases there.