

The Secret of Graphing the Ultimate Forms of Secant and Cosecant Functions (4.4 Part II)

Lesson 157 | Trigonometry | Secant and cosecant graphs

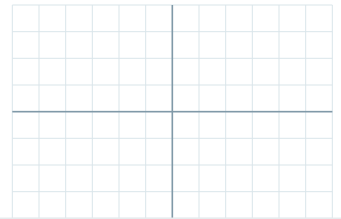
<https://www.youtube.com/watch?v=zRjTtfHMpnQ>

Original practice aligned to the saved video title.

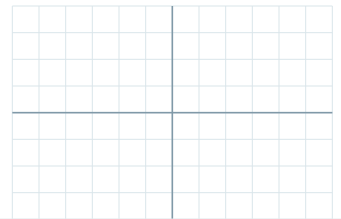
Name: _____ Date: _____ Show your reasoning.

01

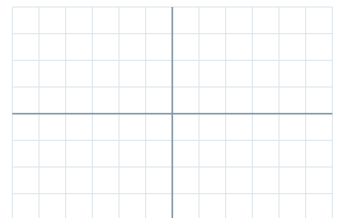
Graph $y=6\csc(4(x-(-4)))+7$. Give period, range, and all vertical asymptotes.

**02**

Graph $y=7\sec(6(x-(3)))+13$. Give period, range, and all vertical asymptotes.

**03**

Graph $y=5\csc(4(x-(5)))+2$. Give period, range, and all vertical asymptotes.



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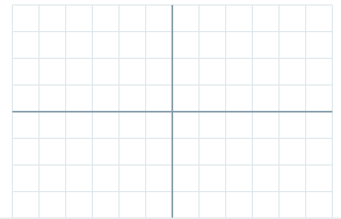
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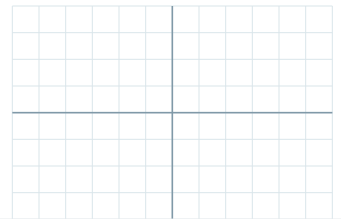
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04

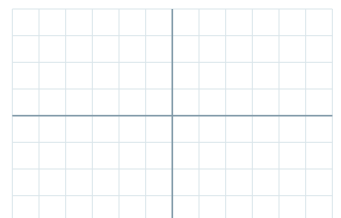
Graph $y=10\sec(7(x-(-5)))+5$. Give period, range, and all vertical asymptotes.

**05**

Graph $y=4\csc(5(x-(-7)))+12$. Give period, range, and all vertical asymptotes.

**06**

Graph $y=6\sec(2(x-(-4)))+12$. Give period, range, and all vertical asymptotes.



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01

Graph $y=6\csc(4(x-(-4)))+7$. Give period, range, and all vertical asymptotes.

Period $2\pi/4$. Range $y \leq 1$ or $y \geq 13$. Sine zeros give asymptotes $x=-4+k\pi/4$. k is any integer. Sketch reciprocal branches outside the excluded midline band.

02

Graph $y=7\sec(6(x-(3)))+13$. Give period, range, and all vertical asymptotes.

Period $2\pi/6$. Range $y \leq 6$ or $y \geq 20$. Cosine zeros give asymptotes $x=3+(\pi/2+k\pi)/6$. k is any integer. Sketch reciprocal branches outside the excluded midline band.

03

Graph $y=5\csc(4(x-(5)))+2$. Give period, range, and all vertical asymptotes.

Period $2\pi/4$. Range $y \leq -3$ or $y \geq 7$. Sine zeros give asymptotes $x=5+k\pi/4$. k is any integer. Sketch reciprocal branches outside the excluded midline band.

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04

Graph $y=10\sec(7(x-(-5)))+5$. Give period, range, and all vertical asymptotes.

Period $2\pi/7$. Range $y \leq -5$ or $y \geq 15$. Cosine zeros give asymptotes $x=-5+(\pi/2+k\pi)/7$. k is any integer. Sketch reciprocal branches outside the excluded midline band.

05

Graph $y=4\csc(5(x-(-7)))+12$. Give period, range, and all vertical asymptotes.

Period $2\pi/5$. Range $y \leq 8$ or $y \geq 16$. Sine zeros give asymptotes $x=-7+k\pi/5$. k is any integer. Sketch reciprocal branches outside the excluded midline band.

06

Graph $y=6\sec(2(x-(-4)))+12$. Give period, range, and all vertical asymptotes.

Period $2\pi/2$. Range $y \leq 6$ or $y \geq 18$. Cosine zeros give asymptotes $x=-4+(\pi/2+k\pi)/2$. k is any integer. Sketch reciprocal branches outside the excluded midline band.