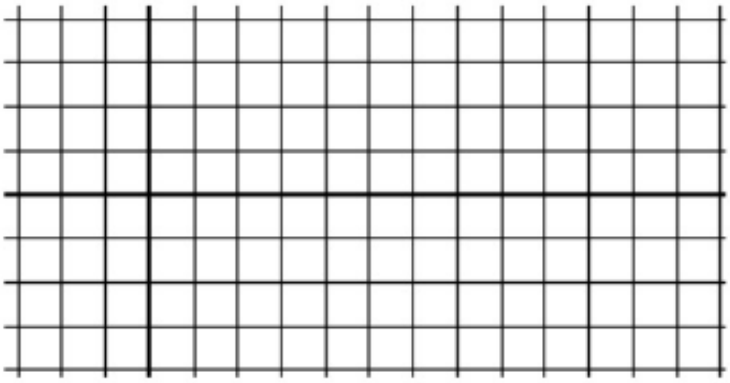
CC Algebra 2/Trig Honors 11-1/11-2 Graphing Trig Functions Date_____

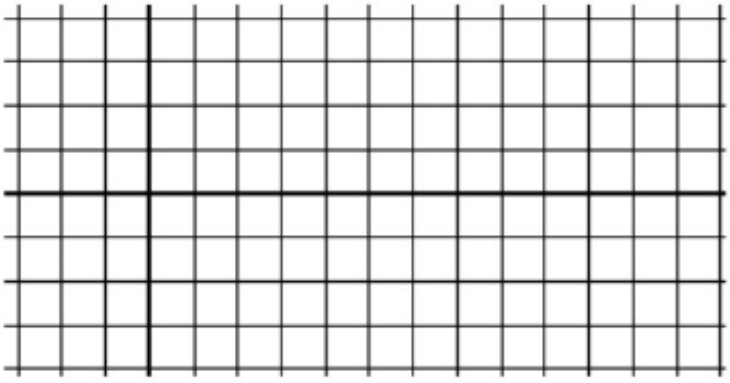
Graphing $y = a \sin bx$ and $y = a \cos bx$

amplitude $|a|$ **range $-a \le y \le a$** **period $\frac{2\pi}{|b|}$**

Ex. 1: $y = \frac{3}{2}\sin\frac{1}{2}x$



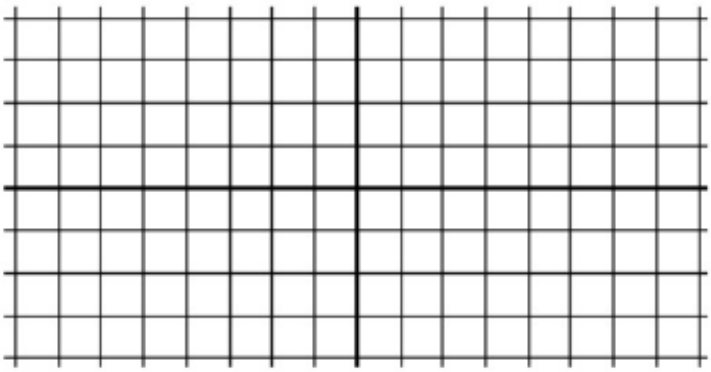
Ex. 2: $y = 3\cos 2x$



Graphing $y = a \tan bx$ **asymptotes: 1st and 5th key points**

period $\frac{\pi}{|b|}$ **range $-\infty \le y \le \infty$** **$\mp a$: 2nd and 4th key points**

Ex. 3: $y = 2\tan\frac{1}{4}x$



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Translations and Reflections

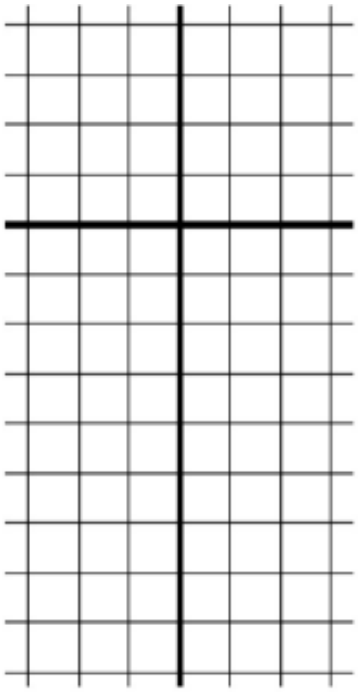
$y = a \sin b(x - h) + k$
$y = a \cos b(x - h) + k$
$y = a \tan b(x - h) + k$

***h*: horizontal translation (phase shift)**

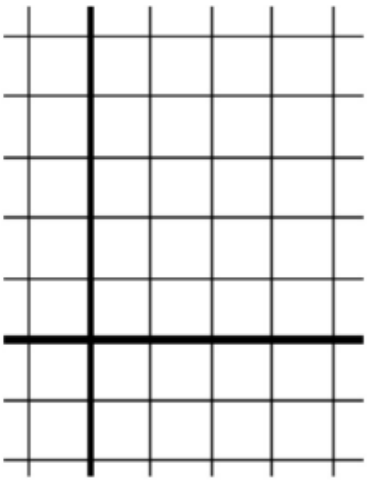
***k*: vertical translation**

if $a < 0$: reflection across line $y = k$

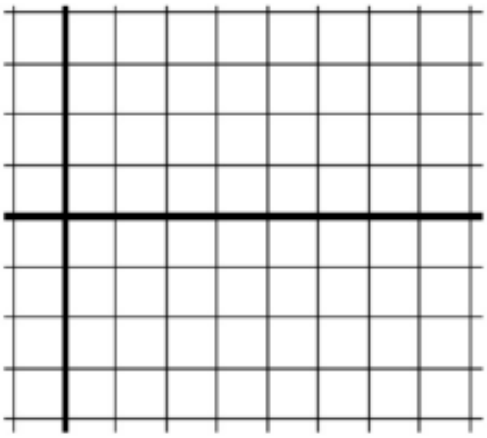
Ex. 4: $y = 3 \tan x - 2$



Ex.5: $y = \frac{-1}{2} \cos \pi x + 3$



Ex.6: $y = 4 \sin\left(x - \frac{\pi}{2}\right)$



Ex.7: $y = -\tan\left(x + \frac{\pi}{2}\right) + 2$