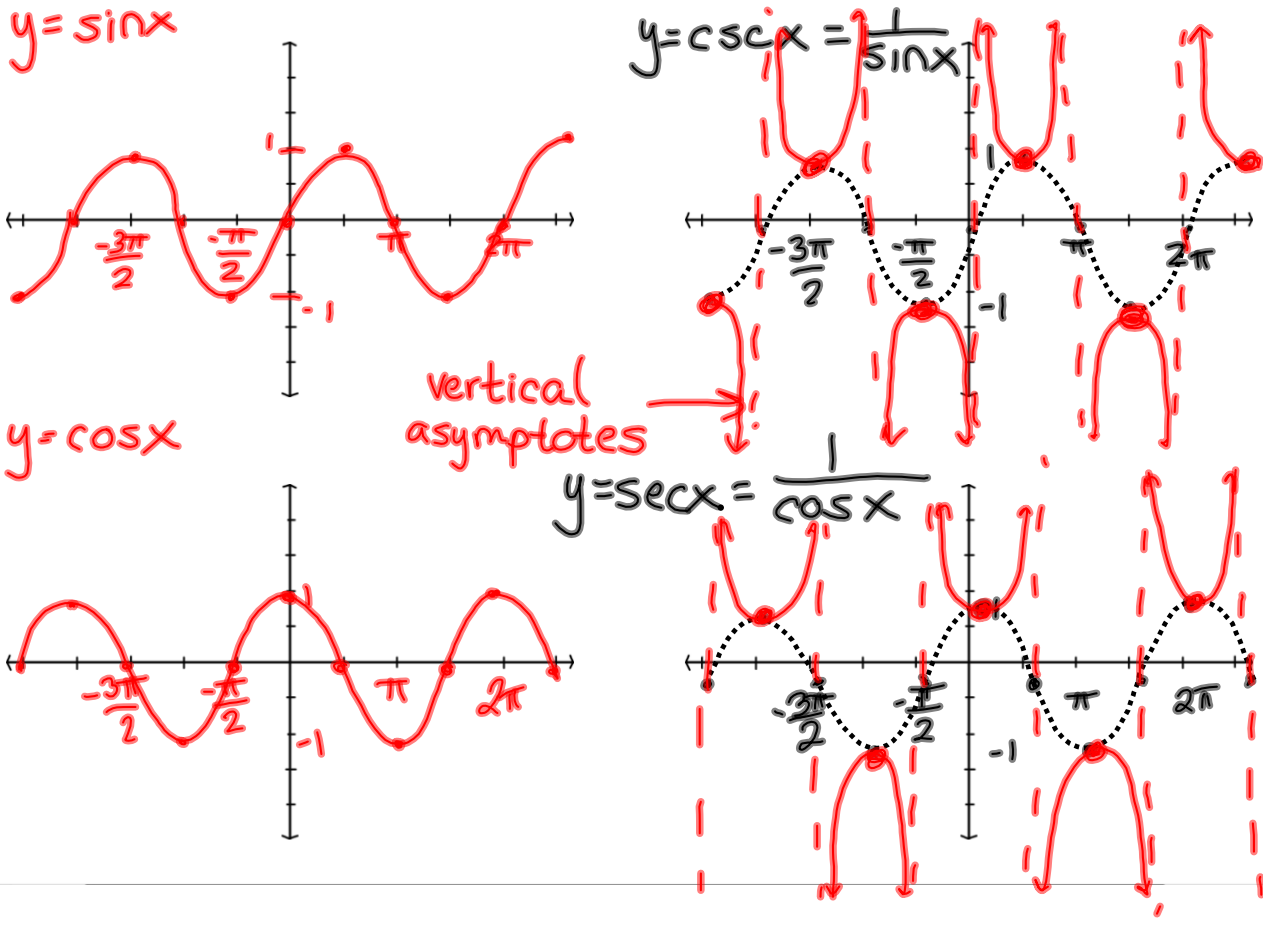
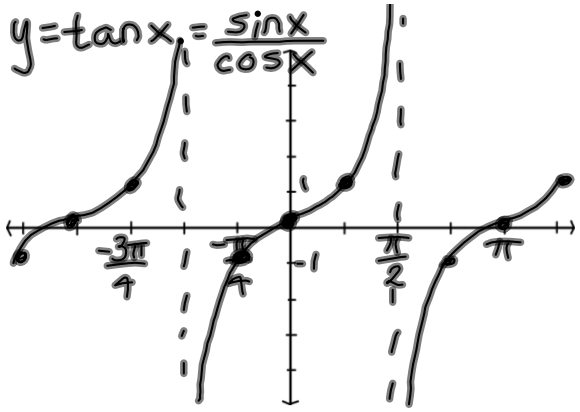
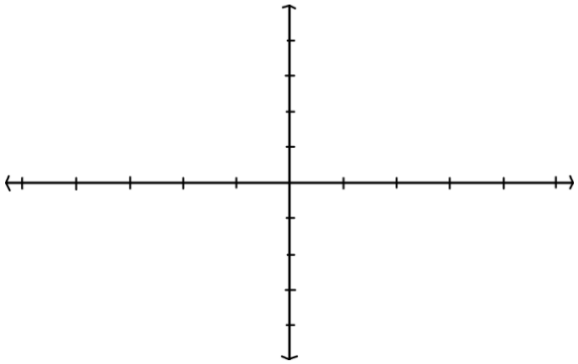
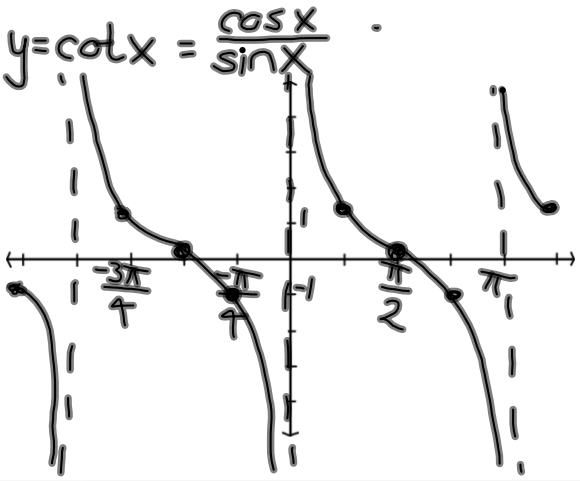
Turn in homework:

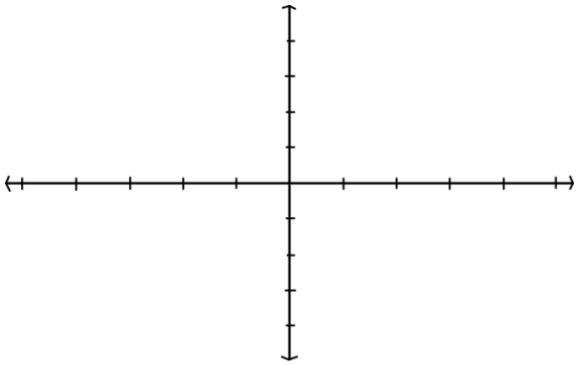
5.4 #61-79 odd
5 word problems from angular speed handout
5.5 #1-6; 43-44; 49-54
Test #1 Practice Problems (handout)











$y = f(x)$

Goal:

$y = a f(bx+c) + d$

$y = f(x) + g(x)$

$y = af(bx)$

multiplication always results in a stretch of the graph.

constants applied outside the function affect it vertically as we expect;

inside - horizontally, opposite of what we would expect

$$\text{amplitude} = \frac{\text{max value} - \text{min value}}{2}$$

for $y = a\sin bx$

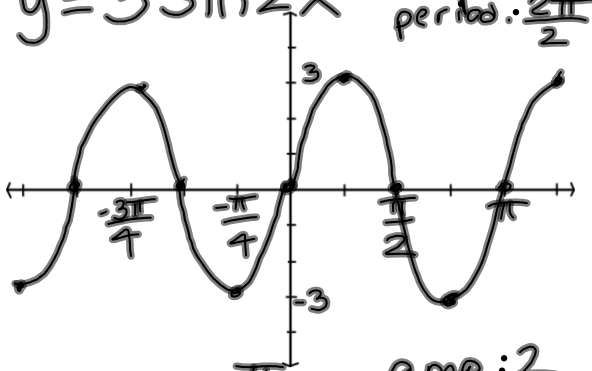
$\underline{\text{amplitude}} = |a|$

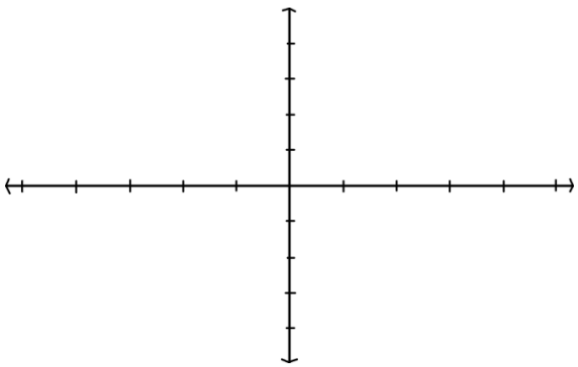
If $a < 0$, vertical flip

$$\underline{\text{period}} = \frac{\text{original period } (2\pi \text{ or } \pi)}{|b|}$$

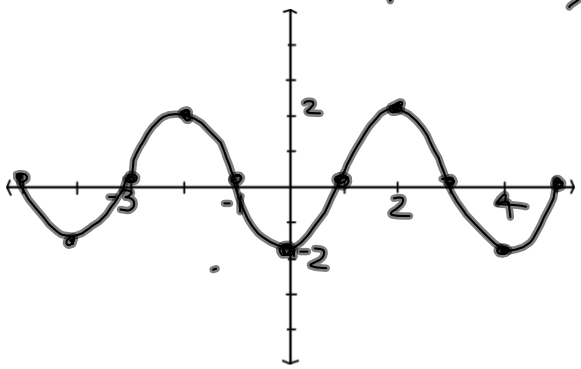
If $b < 0$, horizontal flip

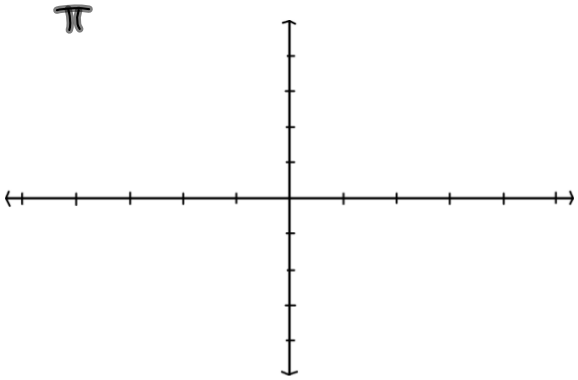
$y = 3\sin 2x$ amp: 3 period: $\frac{2\pi}{2} = \pi$



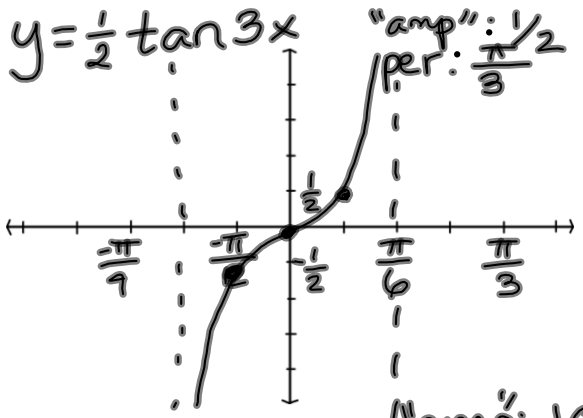


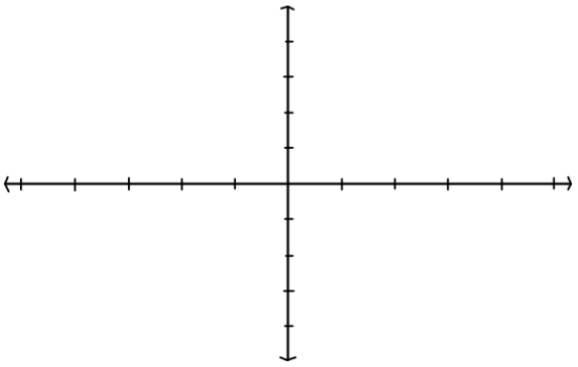
$y = -2\cos\frac{\pi}{2}x$ amp: 2 period: $\frac{2\pi}{\pi/2} = 2\pi \cdot \frac{2}{\pi} = 4$



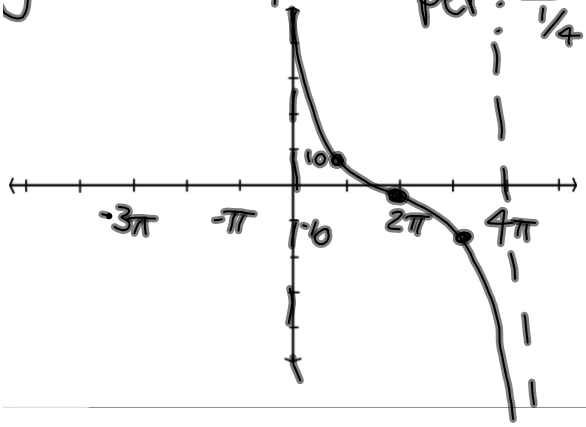


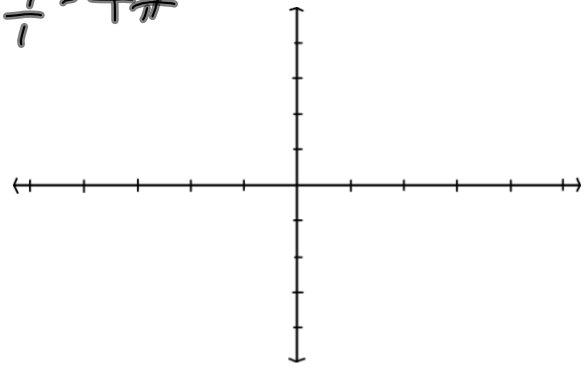
$y = \frac{1}{2}\tan 3x$ "amp": $\frac{1}{2}$ per: $\frac{\pi}{3}$



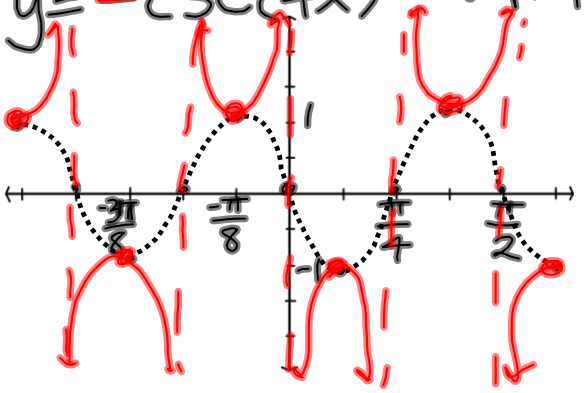


$y = 10\cot\frac{1}{4}x$ "amp": 10 per: $\frac{\pi}{1/4} = \pi \cdot \frac{4}{1} = 4\pi$

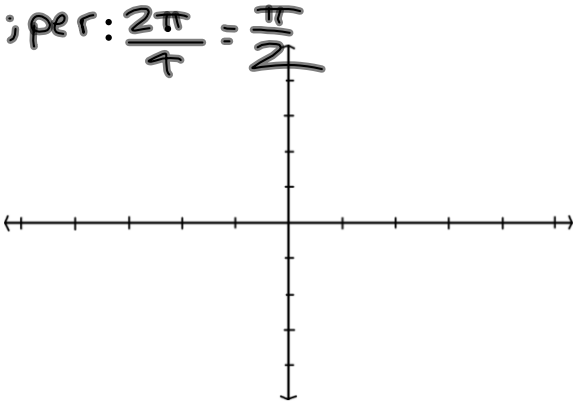




$y = -\csc(4x)$ "amp": 1



per: $\frac{2\pi}{4} = \frac{\pi}{2}$



HW: #1-24 from graphing worksheets