$y = a\sin b(\theta - c°) + d$

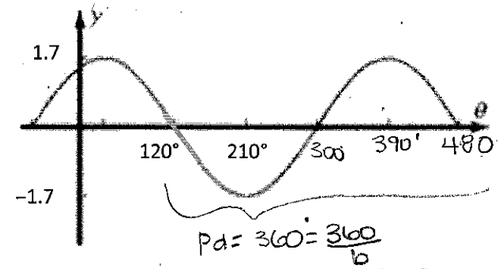
$y = a\cos b(\theta - c°) + d$

Trig Graphing
More Equation Writing WS

Name: Key

For Problems 9–14, find a particular equation of the sinusoid that is graphed.

11.



Pd = 360 = $\frac{360}{b}$

$360b = 360$

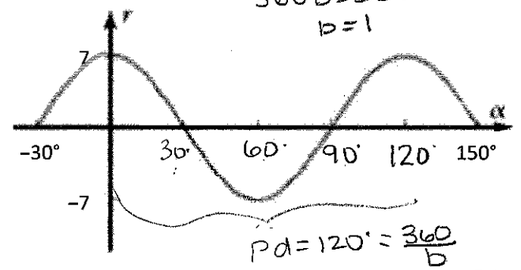
$b = 1$

$y = -1.7\sin(\theta - 120°)$

$y = 1.7\cos(\theta - 30°)$

$y = 1.7\sin(\theta + 60°)$

13.



Pd = 120° = $\frac{360}{b}$

$120b = 360$

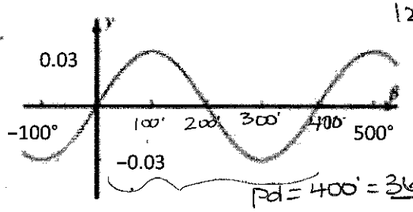
$b = 3$

$y = 7\cos 3\theta$

$y = 7\sin 3(\theta + 30°)$

$y = -7\sin 3(\theta - 30°)$

14.



Pd = 400° = $\frac{360}{b}$ → $400b = 360$

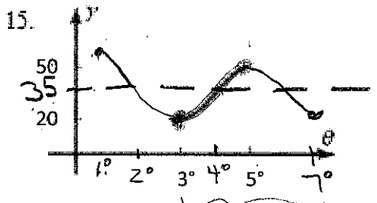
$b = .9$

$y = .03\sin .9\theta$

$y = .03\cos .9(\theta - 100°)$

In Problems 15 and 16, a half-cycle of a sinusoid is shown. Find a particular equation of the sinusoid.

15.



Pd = 4° = $\frac{360}{b}$ → $4b = 360$

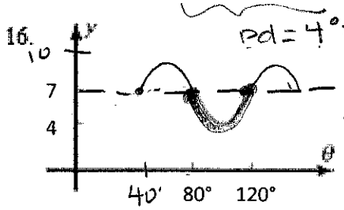
$b = 90$

$y = -15\cos 90(\theta - 3°) + 35$

$y = 15\cos 90(\theta - 1°) + 35$

$y = -15\sin 90(\theta - 2°) + 35$

16.



Pd = 80° = $\frac{360}{b}$

$80b = 360$ $b = 4.5$

$y = 3\sin 4.5(\theta - 40°) + 7$

$y = -3\sin 4.5(\theta - 80°) + 7$

$y = 3\cos 4.5(\theta - 60°) + 7$

$y = 1.5\cos 9(\theta - 80) + 5.5$