ASSIGNMENT: Transforming Trigonometric Functions

<u>DIRECTIONS</u>: When graphing trig functions, your inputs are usually radians, and the outputs are the desired coordinate on the unit circle. Sine represents the y-coordinate on the unit circle while cosine represents the x-coordinate.





a.) What is the amplitude? _____ b.) What is the period? _____

Create a table with your input and exact output values.



The diagram below shows part of the graph of $y = \sin 2x$. The shaded region is between x = 0 and x = m.



3.)

- (a) Determine the maximum value of the function $f(x) = a\cos bx$, $a, b \in \Re$
- (b) Determine the maximum value of $g(x) = -a\cos(2bx) + c$, $a,b,c \in \Re$
- (c) If P₁ = the period of f, and P₂ = the period of g, write down an equation relating P₁ and P₂.

Answer key:

- 1) After you've already used your unit circle to find outputs for input values between $-\pi$ and π , you can check your work with the Desmos online graphing calculator.
- 2) Tutorials
- 3) Tutorials