**IM3H Module 4 Review**

**Things you should know:**

|  |  |
| --- | --- |
| Scaling factor: Vertical stretch: ,  Vertical shrink: Reflection over the x-axis Horizontal translation (left or rightVertical translation (up or down) | Created by webMathematicaGraph of  |
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|  |  |  |  |
| --- | --- | --- | --- |
| **Half-Angle Formulas** |  |  |  |
| **Double Angle Formulas** |  |
| **Sum and Difference Formulas** |  |  |
| **Even and Odd Trigonometric Functions** | Definition:  | The cosine and secant functions are even. The sine, cosecant, tangent, and cotangent functions are odd.   |

Practice Problems

|  |  |
| --- | --- |
| 1.  |  2.  |
| 3.  | 4.  |
| Find all solutions in the equation in the interval [0, 2π).5.  6. Find all general solutions in the equation7.  8.  |
| 9. Given  and . Find the exact values of cos2θ. | 10. Use the half-angle formulas to find the exact value of sin1050 | 11. Use the sum formulas to find the exact value of tan2550. |
| 12 What is the period of the function ? A.  B.  C.  D.  E. None of these  |
| 13. What is the amplitude of the function ? A. 4 B. -6 C. 2 D. 6 E. None of these |
| Verify the identities: |

|  |  |
| --- | --- |
| 14.  | 15.  |
| 16.  | 17.  |

18. Find the exact value using a sum or difference formula.

|  |  |  |
| --- | --- | --- |
| a.  | b.  | c.  |

 **Evaluate:**

|  |  |  |
| --- | --- | --- |
| 19.  | 20.  | 21.  |

22. Find if and .

23. Find, if .

24. Find , and are in the same quadrant.

25. Graph the function: 

26. Graph the function: 



27. Write a sine and a cosine equation for the graph below.


**28. REVIEW FERRIS WHEEL PROBLEMS!!!!**