Set 1

11: The actual definition of the word tangent comes from the Latin word tangere, meaning “to touch” in mathematics the tangent line touches the graph at a circle at only one point and function values of tan ɵ are obtained from the length of the line segment tangent to a unit circle. Can the line segment ever be greater than 1700 units long?

12: Use the information given to write a sinusoidal and sketch it’s graph, then choose the appropriate equation and graph below. Max 160; min20: P=90?

13: In Vancouver British Columbia the number of hours of daylight reaches a low of 7.4hrs in January, and a high of nearly 14.1 hr in july. Find a sinusoidal equation model for the number of daylight hours each month. Assume t=0 corresponds to January 1^{st} round final and intermediate answers to one decimal place if necessary.

14: Identify the amplitude (A), Period (P), horizontal shift (HS), Verticle shifts (VS), and end points of the primary interval (PI) for each function given. Y=284sin(pi/12t + 4pi/3)+226

15: Find the sinusoidal equation for the information given. If nessecary round calculations to the nearest hundredth. Minimum value at (6,8280); max value at (22,23126); period 32year.

Set 2

1: Fill in the blank with the appropriate word or phrase. Two fundamental reciprocal identities are: sin ɵ=1/? And cos ɵ=1/?

2: Verify the equation is an identity using factoring and fundamental identities. Tan^2 x csc^2 x –tan ^2 x =1. Is this equation an identity?

3: write the given function entirely in terms of the second function indication. Sec x in terms of tan x.

4: Is this equation an identity? $\sqrt{\sin^2 x - 64} = \sin x - 8$?

5: writing a given expression in an alternative form is an idea used at all levels of mathematics. In future classes, it is often helpful to decompose a power into smaller powers (as in writing A^3 as A*A^2) or to write an expression using known identities so it can be factored. Can 6sin^2 x cos x -$\sqrt{(10\sin^2)}$ x be factored into (1-cos x)(1+cos x)(6cos x -$\sqrt{10}$)?

6: Is this equation an identity? $\frac{\tan x}{1 + \sec x} = \frac{\sec x - 1}{\tan x}$

7: Is this equation an identity? $\frac{\csc x}{\cot x + \tan x}$=cos x

8: Is this equation an identity? (csc x +cot x)^2= $\frac{(\cos[x + 1)^2]}{\sin^2 x}$

9: Fill in each blank with the appropriate word or phrase. Two fundamental Pythagorean identities are? Sin^2 ɵ +?^2=1 and 1+?^2=csc^2 ɵ

10: Find the exact value of the given expression? Cos($\frac{3pi}{60}$) cos($7pi/60$) -sin($3pi/60$) sin($7pi/60$)

11: Rewrite as a single expression. Sin ($\frac{x}{5}$) cos ($x/7$) + cos ($\frac{x}{5}$) sin ($x/7$)

12: Find the exact value of the expression using a sum or difference identities. Sin 135^o

13: Given a and B are acute angles with cos a= $\frac{8}{17}$ and sec B= $\frac{15}{12}$, find sin (a+B)?

14: Is this equation an identity? Cos (a+B) + cos (a-B) =-2 cos a cos B?

15: Find exact values for sin (20), cos (20), and tan (20) using the information given. Cot (ɵ) = - $\frac{21}{20}$; ɵ in QII