Trigonometric Ratios and Functions (13.4-13.6) Review Name:_____

Advanced Algebra with Trigonometry, Glawe Period:_____

1) What is the domain restriction (in both radians and degrees) for the follow inverse functions:

a) inverse tangent: b) inverse sine: c) inverse cosine:

2) What is the Law of Sines and what types (cases) of triangles do you use it for? What are the possible triangles for SSA?
SSA cases will be given on test

3) What is the Law of Cosines and what types (cases) of triangles do you use it for?

4) What are the two equations we can use to find the area of a triangle and what is the type (case) of triangle for each?
Area equations will be given on your test

Evaluate the following expressions in both radians and degrees (make sure you show all your work):

5) $\sin^{-1}\frac{\sqrt{2}}{2}$ 6) $\cos^{-1}\frac{\sqrt{3}}{2}$ 7) $\tan^{-1}\left(-\frac{\sqrt{3}}{3}\right)$

8) Solve the equation $\tan\theta = 2.1$ where $180° < \theta < 270°$

9) Solve the equation $\sin\theta = 0.62$ where $90° < \theta < 180°$

10) A flying kite is attached to the ground by a 65-foot string. The kite is 42 feet above the ground. What angle goes the string form with the ground?

For problems 11-14, state the case (AAS, SSS, SAS, ASA, or SSA) applicable to the given measurements. Then describe whether the measurements determine one triangle, two triangles, or no triangle. *(You do not need to solve ΔABC)*

11) $A = 149°, a = 7, b = 10$

12) $C = 48°, a = 17, b = 20$

13) $A = 40°, C = 75°, c = 20$

14) $A = 36°, a = 9, b = 12$

For the following problems, solve ΔABC:

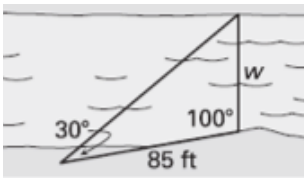
15) $B = 63°, a = 29, c = 38$

16) $A = 50°, a = 2.8, b = 4$

17) $a = 38, b = 31, c = 35$

18) $B = 21°, b = 17, c = 32$

19) A surveyor wants to find the width of a river from a particular point on the shoreline for construction of a bridge. The surveyor's measurements are shown in the figure. How wide (*w*) is the river?



For the following problems, find the area of ΔABC:

20) $a = 43, b = 59, c = 48$

21) $A = 49°, B = 32°, b = 44$