Name_____Date_____Per_____

Show all the work. NO WORK = NO CREDIT

1) Find the area of a triangle with sides 15, 18, and 30. **Round the answer to the nearest hundredth.**
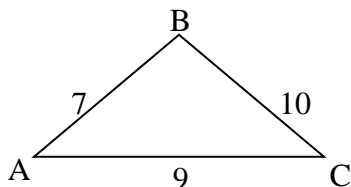
2) Find $\cos B$ for $\triangle ABC$.
   (to four decimal places)

3) Two sides of a triangle have sides measuring 5 and 8. They meet at an $85°$ angle. Find the length of the third side. **Round to the nearest unit.**

4) In $\triangle ABC$ m<A = $70°$, m<C = $50°$, b = 8. Find the measure of side "a" **to the nearest hundredth**.

In problems 6-8, find the exact answer.

5) $\text{Tan}^{-1}(\sin\frac{\pi}{2}) = ?$ 6) $\text{Cos}^{-1}(\cos\frac{2\pi}{3}) = ?$

7) $\text{Sin}^{-1}(\cos\frac{\pi}{2}) = ?$ 8) $\text{Cos}^{-1}(\sin\frac{5\pi}{4}) = ?$

9) According to the Law of Sines, in any $\triangle ABC$: (Hint: Draw $\triangle ABC$. Notice $\overline{AB}$ is the same as side c, and so on)

a) AB sinA =   b) AC sin C =   c) BC sin B=

10) Evaluate for $0 \le x \le 2\pi$:

a) $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ b) $\sin^{-1}\left(\frac{1}{2}\right)$ c) $\tan^{-1} 0$

d) $\sec^{-1}(\text{undefined})$ e) $\sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$ f) $\tan^{-1} 1$

1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9a)	
b)	
c)	
10a)	
b)	
c)	
d)	
e)	
f)	

Solve the following equations. $0 \le x \le 2\pi$.

    For #11 use the quadratic formula and round answers to 4 decimal places.

11) $\cos^2 x + 2\cos x - 2 = 0$

12) $2\sin x = \csc x$

13) $\sin 2x = \cos x$

14) $\cos 2x = \sin x$

Simplify problems 15 – 18:

15) $\dfrac{\sec x + 1}{\sin^2 x \sec x}$

16) $\sec x \csc x - \tan x$

17) $\dfrac{\sin t \cos t}{1 - \cos^2 t}$

18) $\dfrac{\cos \theta}{1 + \sin \theta} + \tan \theta$

Problems 19-22: Find a,b,c,d and period. Then graph:

19) $y = -\sin 2x - 1$

20) $y = 3\cos(2x - \pi) + 2$

21) $y = \dfrac{1}{2}\sin x + 3$

22) $y = -2\sin 2x$

(Graphs on separate graph paper. Label the axis correctly).

11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19) amp= a=	b=	
c=	d=	per=
20) amp= a=	b=	
c=	d=	per=
21) amp= a=	b=	
c=	d=	per=
22) amp= a=	b=	
c=	d=	per=

DO NOT FORGET TO ATTACH GRAPHS!!!!!