Honors Algebra 2
Chapter 13A Review

Key

No Calculator

1. In a right triangle, $\sin A = \frac{4}{5}$. What is $\cos A$? $= \frac{3}{5}$

2. Find one positive angle and one negative angle that is conterminal to $220°$ and $\frac{3\pi}{4}$.
$-140°; 580°$ $\quad -\frac{5\pi}{4}; \frac{11\pi}{4}$

3. An angle θ is in standard position and its terminal side contains (5,12). What is the $\cos\theta$?
$5/13$

4. Suppose θ is in angle standard position whose terminal side lies in quadrant III. If $\csc\theta = \frac{-5}{3}$, find $\tan\theta$.
$3/4$

5. What is the reference angle for $\frac{11\pi}{3}$ and $513°$?
$\pi/3$ $\quad 27°$

State whether each function is *positive, negative, zero, or undefined*.

7. $\cos 270°$ — zero
8. $\cot(-780°)$ — $-$
9. $\sec 405°$ — $+$

Find the values.

10. $\cos(-225°)$ — $-\frac{\sqrt{2}}{2}$
11. $\tan(-495°)$ — 1
12. $\csc 300°$ — $\frac{-2}{\sqrt{3}}$ or $\frac{-2\sqrt{3}}{3}$

13. Determine the quadrant in which terminal side of an angle of $-\frac{16\pi}{3}$ radians lies.
II

14. Find the reference angle for an angle measuring $\frac{17\pi}{4}$.
$\pi/4$

15. Change $1260°$ to radian measure in terms of π.
7π

16. Change $-\frac{13\pi}{7}$ radians to degrees. Round to 3 decimal places. (Calc ok)
$-334.286°$

17. Find the exact value of $\sin\frac{7\pi}{6}$. $= -1/2$

18. Find the exact value of $\sec\left(-\frac{5\pi}{6}\right)$. $= \frac{-2}{\sqrt{3}}$

19. Find the exact value of $\tan\left(\frac{13\pi}{4}\right)$ Solve the following triangles (if possible)
$= 1$

You may use your calculator. ***Round all answers to the nearest tenth***

20. Find the length of an arc that subtends an angle of $\frac{3\pi}{7}$ radians in a circle of **diameter** 16-m. Round to 3 decimal places.

10.771 m

If not possible, state DNE. If two triangles, give both triangles.

21. Solve ΔABC with $a=12$, $b=9$, and $c=22$.

DNE

What if $b = 14$?
$m\angle A = 29.5$
$m\angle C = 115.4°$
$m\angle B = 35.1$

What if $\angle B = 47°$ and b not given?
$b = 16.4$
$m\angle A = 32.4$
$m\angle C = 100.6°$

22. Solve ΔABC with $m\angle A=52°$, $b=10$, and $a=6$.

DNE

What if $a = 8.5$?
Two Δ's

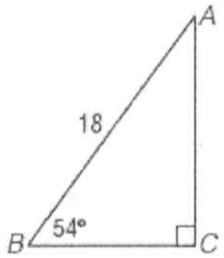
$m\angle B = 112°$	$m\angle B = 68$
$m\angle C = 16°$	$m\angle C = 60°$
$c = 3.0$	$c = 9.3$

What if $a = 15$?
one Δ.
$m\angle B = 31.7°$
$m\angle C = 96.3°$
$c = 18.9$

23. Solve ΔABC with $m\angle B=42.43°$, $m\angle C=71.73°$, and $a=5.4$.

$m\angle A = 65.8°$
$b = 4.0$
$c = 5.6$

24. Solve ΔABC



$m\angle A = 36°$
$a = 10.6$
$b = 14.6$

25. Mr. Allen needs to rent a ladder to paint the outside of his house. The painted part of his house is 20 feet high, and the ladder must reach the top part. How long must the ladder be if the angle formed by the ladder and the ground is 70°?

21.3 ft

26. The lengths of the sides of a parallelogram are 38.7 cm and 64.5 cm. Find the area of the parallelogram, if the smaller angle is 70.8°.

2357.3 cm^2