Name: ——————————————————————   Date: ——————————

Instructions: Please complete the following problems. Each answer is associated with a letter that creates a secret phrase (hint: another Georgia Tech mascot). You can find the key on the last page.

Problem 1. Find the exact value of $y = \cos^{-1}(0)$

Problem 2. Find the exact value of $y = \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

Problem 3. Find the exact value of $y = \arcsin(\frac{1}{2})$

Problem 4. Find the exact value of $y = \arcsin(\pi)$

Problem 5. Find the exact value of $y = \tan^{-1}(-1)$

Problem 6. Find the inverse function of $y = 2\sin(x) + 1$, with domain $-\frac{\pi}{2} \le x \le \frac{\pi}{2}$

Problem 7. Evaluate $y = \cos\left[\sin^{-1}\left(\frac{2}{3}\right)\right]$

Problem 8. Evaluate $y = \tan\left[\sin^{-1}\left(-\frac{1}{5}\right)\right]$

Problem 9. Given $f(x) = \cos(x - \pi) - 5$, what must the domain of the function be in order to find the inverse?

Problem 10. Given $f(x) = \tan(x - \pi) + 3$, what must the domain of the function be in order to find the inverse?

Problem 11. What is the range of inverse sin?

Problem 12. What is the range of inverse cos?

Problem 13. What is the range of inverse tan?

A	$\frac{5\pi}{6}$
B	Undefined
C	$0 \le x \le \pi$
D	0
E	$-\frac{\pi}{2} \le x \le \frac{\pi}{2}$
F	150
G	Q3
H	$\frac{43}{5}$
I	$f(x)^{-1} = \sin^{-1}\left(\frac{x-1}{2}\right)$
J	$f(x)^{-1} = \sin^{-1}(x - \frac{1}{2})$
K	$-\frac{\pi}{2} < x < \frac{\pi}{2}$
L	$-\frac{\pi}{4}$
M	$\frac{\pi}{6}$
N	$\sqrt{5}$
O	$f(x)^{-1} = \sin^{-1}(x - \frac{3}{2})$
O	$-\frac{\sqrt{3}}{2}$
P	$\frac{4\sqrt{7}}{7}$
Q	$true$
R	$\frac{\pi}{2} < x < \frac{3\pi}{2}$
R	$\frac{\pi}{2}$
S	$37°$
T	45000
T	$\frac{2\sqrt{3}}{3}$
U	$-\frac{4}{5}, \frac{3}{5}, -\frac{4}{3}, -\frac{5}{4}, \frac{5}{3}, -\frac{3}{4}$
V	odd
W	$\pi \le x \le 2\pi$
X	$false$
Y	π
Z	even
@	$-\frac{3}{5}, \frac{6}{5}, -\frac{2}{3}, -2, \frac{5}{3}, \frac{3}{4}$
'	$-\frac{\sqrt{6}}{12}$
!	56990
?	neither even nor odd

What was the phrase you found?