High School for Health Professions and Human Services Robert Gentile, Principal 27 April 2018 Mathematics Department Anastasia Tavarez, A. P. Mathematics Mr. Shahom, Math Teacher

27 April 2018 Name:				Mr. Shahom, Math Teacher Period:			
	IOW ALL WORK. Give exact answers unit values are given in brackets.	ınless indic	ated	otherwise. Place a box around your final answ	vers.		
1.	Prove the identity: $\cot \theta + \tan \theta = \csc \theta \cdot \sec \theta$	[ 10 ]	2.	Use the half-angle identity $\cos \frac{1}{2} A = \pm \sqrt{\frac{1 + \cos A}{2}}$ to find the <i>exact</i> value of $\cos 15^{\circ}$ .	[10]		
3.	If $\sec A = -\frac{13}{5}$ , $\tan B = 2$ , and angles A and B both terminate in Quadrant III find the exact value of $\cos(A+B)$ . [Use the identity $\cos(A+B) = \cos A \cos B$		4.	If $\sin \theta = -\frac{1}{3}$ and $\frac{3\pi}{2} < \theta < 2\pi$ , find the exact value of $\sin 2\theta$ .	[ 12 ]		

5. Solve for all values of x in the interval  $0 \le x < 2\pi$ :  $2\cos x - \sqrt{3} = 4\cos x$  [12]

6	Solve for al	1 values of	f x in the interv	val $0 < x < 2\pi$	$\cos x \tan x - \cos x = 0$

[12]

[ 16 ]

7. Solve for all values of x on the interval  $0 \le x < 2\pi$ :  $\cos 2x + 3\sin x = -1$ 

[ 16 ] 8. Solve for all values of x in the interval  $0 \le x < 2\pi$ :  $3\cos x + 3 = 2\sin^2 x$