

Name: _____

Period: _____

Row: ___ Seat: ___

MPS22 EXAM 4 PRACTICE TEST

SHOW ALL WORK. Give exact answers unless indicated otherwise. Place a box around your final answers.
Point values are given in brackets.

- | | |
|---|---|
| 1. Prove the identity: [10]
$\cot \theta + \tan \theta = \csc \theta \cdot \sec \theta$ | 2. Use the half-angle identity $\cos \frac{1}{2} A = \pm \sqrt{\frac{1 + \cos A}{2}}$ [10]
to find the <i>exact</i> value of $\cos 15^\circ$. |
| 3. If $\sec A = -\frac{13}{5}$, $\tan B = 2$, and angles [12]
A and B both terminate in Quadrant III,
find the exact value of $\cos(A + B)$.
[Use the identity $\cos(A + B) = \cos A \cos B - \sin A \sin B$.] | 4. If $\sin \theta = -\frac{1}{3}$ and $\frac{3\pi}{2} < \theta < 2\pi$, [12]
find the exact value of $\sin 2\theta$. |
| 5. Solve for all values of x in the interval $0 \leq x < 2\pi$: $2 \cos x - \sqrt{3} = 4 \cos x$ [12] | |

6. Solve for all values of x in the interval $0 \leq x < 2\pi$: $\cos x \tan x - \cos x = 0$ [12]

7. Solve for all values of x on the interval $0 \leq x < 2\pi$: $\cos 2x + 3\sin x = -1$ [16]

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