MATH 5

Practice Test 2

- No notes, books, or calculators are allowed.

- Please show all your work.

- Each problem is worth 5 points.

1. Convert $250°$ to radians and draw this angle in the standard position.

2. Find the reference angle of $\dfrac{5\pi}{4}$.

3. If the terminal side of angle θ in the standard position passes through the point $(3, -4)$, find $\tan \theta$.

4. If θ is in quadrant II and $\cos \theta = -\dfrac{1}{5}$, find $\sin \theta$.

5. Find the exact value of $\sin \left(\dfrac{3\pi}{4} \right)$.

6. Sketch the graph of $\cos(x + 2) - 1$ on the interval $[-2\pi, 2\pi]$.

7. Sketch the graph of $2 - \sin(2x)$ on the interval $[-2\pi, 2\pi]$.

8. Sketch the graph of $x + \tan(x)$ on the interval $[-2\pi, 2\pi]$.

9. Find the exact value of $\arccos \left(-\dfrac{1}{2} \right)$.

10. Find the exact value of $\arcsin \left(\sin(0.9\pi) \right)$.

11. Find all solutions of $\cos^2(x) = \dfrac{1}{2}$ in the interval $[0, 2\pi]$.

12. Use the graphs to find how many solutions the equation $\tan x = -x$ has on the interval $[0, 2\pi]$. (You do not have to find the solutions).

13. Use $165° = 135° + 30°$ to find the exact value of $\cos(165°)$.

14. If $\cos(\alpha) = \dfrac{1}{3}$ and α is in quadrant I, find the exact value of $\sin(2\alpha)$.