40S Pre-Calculus Math
Trigonometry Unit Test v1   Name_____

/ 43 marks

Part I- Multiple Choice: Circle the BEST answer. (1 mark each)

1. Given $\sec\theta = -\frac{4}{3}$ and $\tan\theta < 0$, which quadrant in which θ terminates?

   A) Quadrant I   C) Quadrant III

   B) Quadrant II   D) Quadrant IV

2. Given the point $P(5, -1)$, what is the exact value of $\sec\theta$?

   A) $\frac{-1}{\sqrt{24}}$ C) $\frac{-1}{5}$

   B) $\frac{5}{\sqrt{26}}$ D) none of the above

3. Identify the co-terminal of $\frac{2\pi}{5}$.

   A) $\frac{-3\pi}{5}$ C) $\frac{7\pi}{5}$

   B) $\frac{-13\pi}{5}$ D) $\frac{12\pi}{5}$

4. Consider the angle at a standard position $\theta = 2783°$. What is its reference angle?

   A) $263°$ C) $2520°$

   B) $73°$ D) 83

5. Which of the following angles DO NOT have a reference angle of $\theta_R = 72°$?

   A) $252°$ C) $-288°$

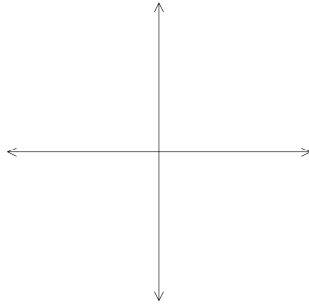   B) $468°$ D) $-144°$

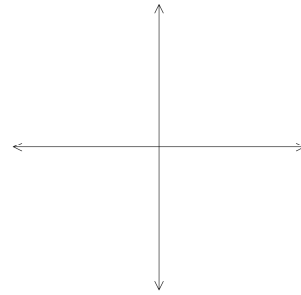**Part II- Short and Long Answers. Show your solution on the space provided.**

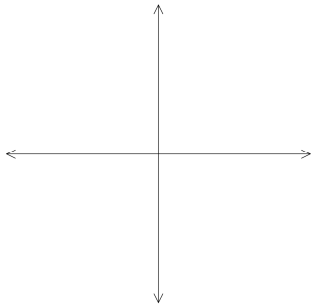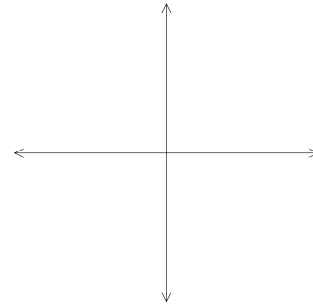6. Sketch the following angles in standard position. (4 marks)

a) $-128°$

b) 14.9 radians

c) $440°$

d) $-\dfrac{7\pi}{4}$

7. Given the following angle measurements, state the reference angle. (2 marks)

a) $591°$

b) 5.32 radians

6. Determine the exact value of $\cos 495°$ (2 marks)

7. Determine the exact value of $\sec\left(\dfrac{13\pi}{6}\right)$. (2 marks)

8. Consider the point, $P(-3, -7)$,
a) State the exact values of 6 trigonometric ratios. (6 marks)

b) Determine θ for $[-2\pi, 2\pi]$. (2 marks)

9. Convert $1340°$ in radian measure in lowest terms. (1 mark)
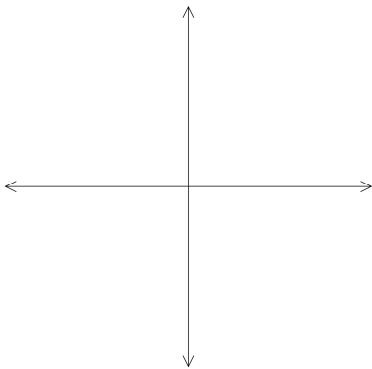
10. Convert $-\frac{9\pi}{7}$ to the nearest degree. (1 mark)

11. Explain the difference between an angle measuring $5°$ and one angle measuring 5 radians.
(1 mark)

12. Determine the exact value of $\cot \theta$ given that $\cos \theta = -\frac{5}{8}$ and $\sin \theta$ is positive. (2 marks)

13. Sketch $\theta = \frac{3\pi}{5}$ and determine the measures of angles that are co-terminal with θ for $-4\pi \leq \theta \leq 4\pi$. (3 marks)

14. Determine the exact values of six trig ratios for the angle $420°$. (6 marks)

15. Determine the exact value of θ over $[-2\pi, 2\pi]$ of $\csc \theta = \frac{2}{\sqrt{3}}$. (4 marks)

16. If θ terminates in Quadrant IV and $\tan \theta = -\frac{3}{4}$, find the value of $\cos \theta$. (2 marks)

BONUS: Solve θ, given the equation $\sqrt{2}\csc \theta + 2 = 0$ for $-\pi \leq \theta \leq \pi$ (2 marks)