**Test #2 Trigonometry Name:\_\_\_\_\_\_\_\_\_\_**

Part I : Place the correct response in the space provided to the right. [15]

1. Which represents standard position for $-\frac{9π}{5}$ radians? 1.\_\_\_

 (A) (B)

 (C) (D)

2. Which represents 195° expressed in radian measure? 2.\_\_\_

 (A) $\frac{13π}{6}$ (B) $\frac{13π}{24}$ (C) $\frac{13π}{11}$ (D) $\frac{13π}{12}$

3. Which pair of angles is coterminal? 3.\_\_\_

 (A) $\frac{2π}{3}$ and $\frac{5π}{3}$ (B) $-\frac{5π}{4}$ and $\frac{3π}{4}$

 (C) $\frac{2π}{5}$ and $\frac{11π}{5}$ (D) $-\frac{5π}{6}$ and $\frac{5π}{6}$

4. What is the length of the arc cut by a 240° sector in a circle

having diameter 10 cm? 4.\_\_\_

(A) $\frac{10π}{3}$

(B) $\frac{20π}{3}$

(C) $\frac{30π}{3}$

(D) $\frac{40π}{3}$

5. Which represents the equation of a circle with centre at the origin

 and radius $2\sqrt{3}$ ? 5.\_\_\_

 (A) x2 + y2 = $2\sqrt{3}$ (B) x2 + y2 = 6

 (C) x2 + y2 = 12 (D) x2 + y2 = 36

6. If P(Ө) is the point of intersection on the terminal arm of Ө and the

 unit circle, then which represents the exact coordinates for $P\left(\frac{5π}{6}\right)$ ? 6.\_\_\_

 (A) $\left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$ (B) $\left(\frac{1}{2},-\frac{\sqrt{3}}{2}\right)$

 (C) $\left(\frac{\sqrt{3}}{2},- \frac{1}{2}\right)$ (D) $\left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$

7. Which represents the measure of the central angle Ө if the point

 $P\left(θ\right)=\left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$ lies on the terminal arm of Ө? 7.\_\_\_

 (A) $-\frac{4π}{3}$ (B) $-\frac{7π}{6}$ (C) $\frac{4π}{3}$ (D) $\frac{7π}{6}$

8. Which represents the missing coordinate if the point $P\left(\frac{1}{5}, y\right)$

 lies on the terminal arm in the fourth quadrant? 8.\_\_\_

 (A) $-\frac{2\sqrt{6}}{5}$ (B) $-\frac{3\sqrt{10}}{10}$ (C) $\frac{3\sqrt{10}}{3}$ (D) $\frac{2\sqrt{6}}{5}$

9. If the point P(–8, 15) lies on the terminal arm of Ө, then which

 represents the ratio for csc Ө ? 9.\_\_\_

 (A) $\frac{15}{17}$ (B) $\frac{17}{15}$ (C) $-\frac{8}{17}$ (D) $-\frac{17}{8}$

10. Which represents the exact value of $\tan(\left(\frac{2π}{3}\right))$ ? 10.\_\_

 (A) $-\frac{\sqrt{3}}{3}$ (B) $-\sqrt{3}$ (C) $\frac{\sqrt{3}}{3}$ (D) $\sqrt{3}$

11. Which represents the exact value of tan 60° + cot 60° ? 11.\_\_

 (A) $\frac{4\sqrt{3}}{3}$ (B) $\frac{2\sqrt{3}}{3}$ (C) 1 (D) $\sqrt{3}$

12. Which represents the approximate measure in radians for Ө

if sec Ө = 3 ? 12.\_\_

(A) 0.01 (B) 0.05 (C) 0.34 (D) 1.23

13. In which quadrant is csc Ө > 0 and cos Ө < 0 ? 13.\_\_

(A) I (B) II (C) III (D) IV

14. Which represents a solution for tan Ө = –1.456

where 180° ≤ Ө ≤ 360° ? 14.\_\_

(A) 55.5° (B) 214.5° (C) 235.5° (D) 304.5°

15. Which exact measures of Ө satisfy sin Ө = 0

 where –360° ≤ Ө < 360°? 15.\_\_

 (A) Ө = –360°, –180°, 0°, 180°, 360°

 (B) Ө = –270°, –90°, 0°, 90°, 270°

 (C) Ө = –360°, –180°, 0°, 180°

 (D) Ө = 0°

Part II: Answer each question in the space provided. Correct answers

without appropriate trigonometric justification will not receive full marks.

16. Determine the EXACT value, in simplest form, for: [6]

 $\frac{\sin(\left(-\frac{4π}{3}\right)+\sec(\left(\frac{π}{4}\right)))}{\tan(\left(-120°\right))}$

17. Determine the general solution to the equation below,

where x is in degrees. [6]

 6 csc2x – csc x = 15

18. Solve for x, where –π ≤ x < 2π sec2x – 3 sec x +2 = 0 [5]

19. Determine the length of $\hat{AB}$, to the nearest tenth of a unit. [6]

