

**PreAP Precalculus**  
**WS – Trig Review**  
**Spring 2017**

Name \_\_\_\_\_

Date \_\_\_\_\_ Per \_\_\_\_\_

Evaluate the following:

- |                            |                          |                          |                          |
|----------------------------|--------------------------|--------------------------|--------------------------|
| 1. $\sin \frac{7\pi}{12}$  | 2. $\tan \frac{3\pi}{8}$ | 3. $\cos \frac{5\pi}{8}$ | 4. $\cos \frac{\pi}{12}$ |
| 5. $\tan \frac{11\pi}{12}$ | 6. $\sin \frac{7\pi}{8}$ | 7. $\tan \frac{\pi}{12}$ | 8. $\sin \frac{9\pi}{8}$ |

Given that  $\cos \alpha = -\frac{15}{17}$  with  $\pi \leq \alpha \leq \frac{3\pi}{2}$  and  $\sin \beta = \frac{7}{25}$  with  $\frac{\pi}{2} \leq \beta \leq \pi$  find:

- |                           |                            |                            |                            |
|---------------------------|----------------------------|----------------------------|----------------------------|
| 9. $\sin(\alpha + \beta)$ | 10. $\cos(\alpha - \beta)$ | 11. $\tan(\alpha - \beta)$ | 12. $\sec(\alpha + \beta)$ |
|---------------------------|----------------------------|----------------------------|----------------------------|

Given that  $\sec \alpha = -\frac{5}{4}$  with  $\frac{\pi}{2} \leq \alpha \leq \pi$  and  $\cot \beta = -\frac{8}{15}$  with  $\frac{\pi}{2} \leq \beta \leq \pi$  find:

- |                    |                    |                            |                             |
|--------------------|--------------------|----------------------------|-----------------------------|
| 13. $\tan 2\alpha$ | 14. $\sin 2\alpha$ | 15. $\cos 2\alpha$         | 16. $\tan 2\beta$           |
| 17. $\sin 2\beta$  | 18. $\cos 2\beta$  | 19. $\tan \frac{\beta}{2}$ | 20. $\sin \frac{\alpha}{2}$ |

Evaluate the following

- |  |   |  |   |
|--|---|--|---|
| 21. $\sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$           | 22. $\cos^{-1}\left(-\frac{1}{2}\right)$                  | 23. $\tan^{-1}\left(-\frac{1}{\sqrt{3}}\right)$            | 24. $\sin^{-1}\left(\frac{1}{\sqrt{2}}\right)$              |
| 25. $\sec^{-1}\left(-\sqrt{2}\right)$                    | 26. $\csc^{-1}\left(-\frac{2\sqrt{3}}{3}\right)$          | 27. $\cot^{-1}\left(\sqrt{3}\right)$                       | 28. $\sin^{-1}(1)$  |
| 29. $\tan\left(\cos^{-1}\left(\frac{3}{4}\right)\right)$ | 30. $\sec\left(\tan^{-1}\left(\frac{15}{8}\right)\right)$ | 31. $\sin\left(\cos^{-1}\left(-\frac{7}{25}\right)\right)$ | 32. $\cos^{-1}\left(\cos\left(\frac{7\pi}{6}\right)\right)$ |
| 33. $\sin^{-1}\left(\sin \frac{7\pi}{4}\right)$          | 34. $\cos^{-1}(\cos(5.9))$                                | 35. $\sin^{-1}(\sin(5.2))$                                 | 36. $\tan\left(\tan^{-1}(2.6)\right)$                       |

Solve the following on the interval  $[0, 2\pi)$

- |   |                                    |
|---|------------------------------------|
| 37. $4\cos x = -2\sqrt{3}$                | 38. $\sec x - 2 = 0$               |
| 39. $3\tan x + \sqrt{3} = 0$              | 40. $2\sin x - 1 = 0$              |
| 41. $\cos x = -0.5912$                    | 42. $\sin x = 0.8641$              |
| 43. $\tan x = -4.291$                     | 44. $\sec x = -2.817$              |
| 45. $\cos x \tan x - \sqrt{3} \cos x = 0$ | 45. $\sin x \sec x - 2 \sin x = 0$ |
| 46. $2\sin^2 x + \sin x - 1 = 0$          | 47. $2\sin^2 x + \cos x - 1 = 0$   |
| 48. $3\cos^2 x + \cos x - 2 = 0$          | 49. $6\sin^2 x + \sin x - 2 = 0$   |