Algebra 2/Trig—H HW #_____ Name_____
13-4 Inverse Functions and Review Per_____Col_____Date_____

Show all work on this worksheet. NO CALCULATORS.

Find exact values. Draw triangles. Give angle measures in degrees and radians.		
1. $\cos^{-1}\left(\frac{-\sqrt{3}}{2}\right)$	2. $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$	3. $\cot^{-1}(-1)$
4. $\sec^{-1} 2$	5. $\csc^{-1}\left(-\sqrt{2}\right)$	6. $\sin^{-1}(\cos 150°)$
7. $\tan^{-1}\left(\cot\frac{3\pi}{4}\right)$	8. $\cot^{-1}(\tan(-30°))$	9. $\cos\left(\sin^{-1}\left(\frac{-1}{2}\right)\right)$
10. $\cot\left(\cos^{-1}\left(\frac{8}{17}\right)\right)$	11. $\sin\left(\cot^{-1} 2\right)$	12. $\tan\left(\csc^{-1}(-4)\right)$

Find all values of θ that make each statement true. Draw triangles.

13. $\cos\theta = \frac{\sqrt{2}}{2}$, if $180° < \theta < 360°$

14. $\sin\theta = \frac{-\sqrt{3}}{2}$, if $180° < \theta < 360°$

15. $\tan\theta = -\sqrt{3}$, if $90° < \theta < 270°$

Find exact values in simplest form. Draw triangles.

16. $\tan(-210°)$

17. $\sec 690°$

18. $\sin\left(\frac{5\pi}{4}\right)$

19. $\cot\left(\frac{-5\pi}{6}\right)$

20. The terminal side of angle θ in standard position passes through (-1, 5). Find the values of all six trigonometric functions of θ.

Selected answers:

6. -60°, $\frac{-\pi}{3}$ 7. -45°, $\frac{-\pi}{4}$ 8. 120°, $\frac{2\pi}{3}$ 9. $\frac{\sqrt{3}}{2}$ 10. $\frac{15}{8}$ 11. $\frac{\sqrt{5}}{5}$ 12. $\frac{-\sqrt{15}}{15}$

13. 315° 14. 240°, 300° 15. 120° 16. $\frac{-\sqrt{3}}{3}$ 17. $\frac{\sqrt{3}}{2}$ 18. $\frac{-\sqrt{2}}{2}$ 19. $\sqrt{3}$

20. $\sin\theta = \frac{5\sqrt{26}}{26}$, $\cos\theta = \frac{-\sqrt{26}}{26}$, $\tan\theta = -5$, $\csc\theta = \frac{\sqrt{26}}{5}$, $\sec\theta = -\sqrt{26}$, $\cot\theta = \frac{-1}{5}$