

Calculus 1 Trigonometry Again!

Name: _____

Period: _____

Date: _____

Show your work. Use the principal ranges for inverse trigonometric functions.

. Principal ranges: $\sin^{-1}$: $[-\pi/2, \pi/2]$, $\cos^{-1}$: $[0, \pi]$, $\tan^{-1}$: $(-\pi/2, \pi/2)$.

1. Evaluate: $\sin^{-1}(\frac{-1}{2})$

2. Evaluate: $\cos^{-1}(\frac{\sqrt{2}}{2})$

3. Evaluate: $\tan^{-1}(-\sqrt{3})$

4. Evaluate: $\sin^{-1}(\sin \frac{2\pi}{3})$

5. Evaluate: $\cos^{-1}(\cos \frac{4\pi}{3})$

6. Evaluate: $\tan^{-1}(\tan \frac{5\pi}{6})$

7. Find the exact value: $\cos(\sin^{-1}(\frac{3}{5}))$

8. Find the exact value: $\sin(\cos^{-1}(\frac{-12}{13}))$

9. Find the exact value: $\tan(\sin^{-1}(\frac{-8}{17}))$

10. Find the exact value: $\cos(\tan^{-1}(\frac{-5}{12}))$

11. Evaluate: $\sin^{-1}(\sin \frac{7\pi}{6})$

12. Evaluate: $\cos^{-1}(\cos \frac{7\pi}{6})$

13. Evaluate: $\tan^{-1}(\tan \frac{7\pi}{6})$

14. Find the exact value: $\sin(2 \tan^{-1}(\frac{3}{4}))$

15. Find the exact value: $\cos(2 \tan^{-1}(\frac{3}{4}))$

16. Find the exact value: $\tan(2 \tan^{-1}(\frac{1}{2}))$

17. Find the exact value: $\cos(2 \sin^{-1}(\frac{3}{5}))$

18. Find the exact value: $\sin(\cos^{-1}(\frac{-3}{5}) + \sin^{-1}(\frac{5}{13}))$

19. Find the exact value: $\cos(\tan^{-1}(\frac{3}{4}) + \tan^{-1}(\frac{5}{12}))$

20. Find the exact value: $\tan(\sin^{-1}(\frac{3}{5}) + \cos^{-1}(\frac{-12}{13}))$