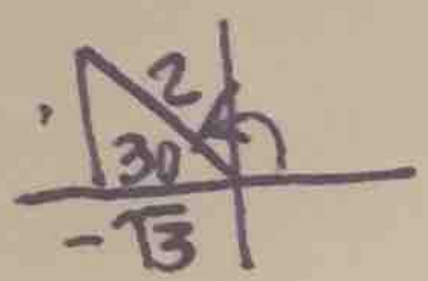
3.5 Principal Inverse Values Name:_____

Find the exact principal value in radians:

1. $\theta = \cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

QII



$\frac{5\pi}{6}$

2. $\theta = \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$

$\frac{\pi}{3}$

3. $\sin\theta = \left(-\frac{1}{2}\right)$

$-\frac{\pi}{6}$

4. $\cos\theta = \left(-\frac{\sqrt{2}}{2}\right)$

$\frac{3\pi}{4}$

5. $\theta = \arctan(1)$

$\frac{\pi}{4}$

6. $\theta = \arcsin(1)$

$\frac{\pi}{2}$

7. $\cos\theta = (-1)$

π

8. $\theta = \sin^{-1}(0)$

0

9. $\theta = \tan^{-1}(-1)$

$-\frac{\pi}{4}$

10. $\theta = \arccos\left(\frac{1}{\sqrt{2}}\right)$

$\frac{\pi}{4}$

11. $\theta = \arcsin(-1)$

$-\frac{\pi}{2}$

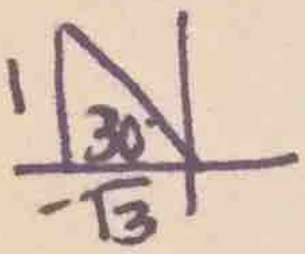
12. $\cos\theta = (0)$

$\frac{\pi}{2}$

Find the exact principal value in radians:

13. $x = \cot^{-1}\left(-\sqrt{3}\right)$ $\frac{A}{O}$ $\frac{-\sqrt{3}}{1}$

QII.



$\frac{5\pi}{6}$

14. $x = \arccos\left(-\frac{1}{2}\right)$

$\frac{2\pi}{3}$

15. $x = \tan^{-1}\left(-\sqrt{3}\right)$ $\frac{-\sqrt{3}}{1}$

$\frac{-\pi}{3}$

16. $\sec x = \left(-\sqrt{2}\right)$

$\frac{3\pi}{4}$

17. $x = \operatorname{arccsc}(2)$

$\frac{\pi}{6}$

18. $x = \sec^{-1}\left(\frac{2}{\sqrt{3}}\right)$

$\frac{\pi}{6}$

19. $x = \sin^{-1}(0)$

0

20. $x = \arccos\left(-\frac{\sqrt{2}}{2}\right)$

$\frac{3\pi}{4}$

21. $x = \sin^{-1}\left(-\frac{\sqrt{2}}{2}\right)$

$\frac{-\pi}{4}$

22. $x = \sec^{-1}(-1)$

	S	C	T
0	0	1	0
π/2	1	0	U
π	0	-1	0
3π/2	-1	0	U

π

23. $x = \tan^{-1}(0)$

0

24. $x = \cot^{-1}(-1)$

$\frac{3\pi}{4}$

25. $x = \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

$-\pi$

3

26. $x = \operatorname{arcsec}(-2)$

2π

3

27. $x = \csc^{-1}(-1)$

$-\pi$

2

28. $\cot x = \left(\frac{-\sqrt{3}}{3}\right)$

$\frac{2\pi}{3}$

29. $x = \sin^{-1}(2)$

DNE

30. $x = \operatorname{arcsec}\left(\frac{1}{2}\right)$

DNE