

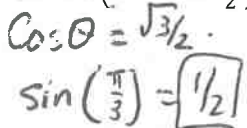
4.17 Practice- Evaluating with Trigonometric Inverses
Find the exact value for each expression.

10 $\tan \theta = 0$
 $\theta = 0$
 $\cos(0) = 1$

$\cos \theta = -\frac{1}{2}$
 $\theta = \frac{2\pi}{3}$

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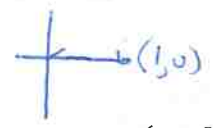
1. $\sin(\text{Arccos } \frac{\sqrt{3}}{2}) = \frac{1}{2}$



4. $\text{Arcsin}(\sin \frac{\pi}{3}) = \frac{\pi}{3}$

$\sin \theta = \frac{\sqrt{3}}{2} \rightarrow$

2. $\cos(\text{Arctan } 0) = 1$



5. $\cos^{-1}(\cos \frac{3\pi}{2}) = \frac{\pi}{2}$

$\cos \theta = 0 \rightarrow$

3. $\tan[2 * \cos^{-1}(-\frac{1}{2})]$
 $\tan(\theta = \frac{2\pi}{3}) \rightarrow \tan(\frac{4\pi}{3}) = \sqrt{3}$

6. $\text{Arctan}(\tan \frac{11\pi}{6}) = -\frac{\pi}{6}$

$\tan \theta = -\frac{1}{\sqrt{3}} \rightarrow$

7. $\sin^{-1}(\cos \frac{2\pi}{3}) = -\frac{\pi}{6}$

$\sin \theta = -\frac{1}{2}$
 $\theta = -\frac{\pi}{6}$

8. $\cos^{-1}(\tan \frac{5\pi}{4}) = 0$

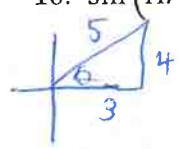
$\cos \theta = 1$
 $\theta = 0$

9. $\text{Arctan}(\sin 7\pi) = 0$

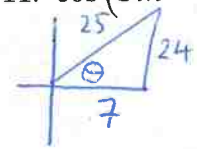
$\tan \theta = 0$
 $\theta = 0$

Find the exact value for each expression.

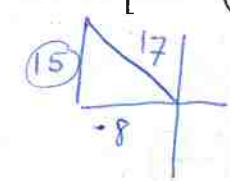
10. $\sin(\text{Arctan } \frac{4}{3}) = \frac{4}{5}$



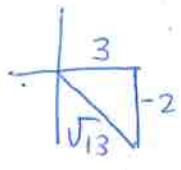
11. $\cos(\sin^{-1} \frac{24}{25}) = \frac{7}{25}$



12. $\tan[\cos^{-1}(-\frac{8}{17})] = \frac{15}{-8}$



13. $\cos[\tan^{-1}(-\frac{2}{3})] = \frac{3}{\sqrt{13}}$



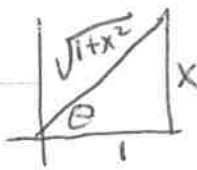
14. $\cot[\sin^{-1}(-\frac{1}{4})]$

$\sin \theta = -\frac{1}{4}$
 $\frac{\sqrt{15}}{4} / -\frac{1}{4} = \frac{\sqrt{15}}{-1} = -\sqrt{15}$

15. $\csc(\text{Arccos } 2)$

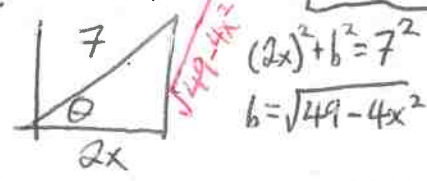
$\cos \theta = 2$
undefined

16. $\sin(\text{Arctan } x) = \frac{x}{\sqrt{1+x^2}}$



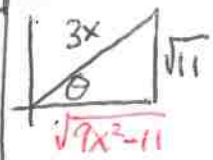
$\tan \theta = \frac{x}{1}$

17. $\tan(\text{Arccos } \frac{2x}{7}) = \frac{\sqrt{49-4x^2}}{2x}$



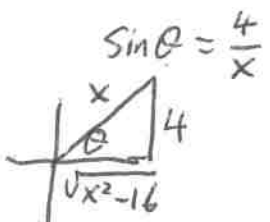
$(2x)^2 + b^2 = 7^2$
 $b = \sqrt{49-4x^2}$

18. $\cos(\sin^{-1} \frac{\sqrt{11}}{3x}) = \frac{\sqrt{9x^2-11}}{3x}$



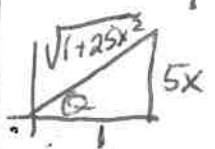
$a^2 + \sqrt{11}^2 = (3x)^2$
 $a = \sqrt{9x^2-11}$

19. $\sec(\sin^{-1} \frac{4}{x}) = \frac{x}{\sqrt{x^2-16}}$



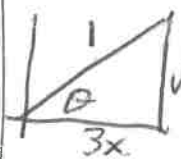
$a^2 + 4^2 = x^2$
 $a = \sqrt{x^2-16}$

20. $\cot(\text{Arctan } 5x) = \frac{1}{5x}$



$1^2 + (5x)^2 = c^2$
 $c = \sqrt{1+25x^2}$

21. $\csc(\cos^{-1} 3x) = \frac{1}{\sqrt{1-9x^2}}$



$(3x)^2 + b^2 = 1$
 $b = \sqrt{1-9x^2}$