

Algebra 3 Assignment # 16

Evaluate each of the following numbers please.

(1) $\sin\left(\tan^{-1}\left(\frac{5}{6}\right)\right)$

(8) $\cos\left(\frac{1}{2}\cos^{-1}\left(-\frac{12}{13}\right)\right)$

(2) $\tan\left(\sin^{-1}\left(\frac{15}{17}\right)\right)$

(9) $\sin\left(\frac{1}{2}\tan^{-1}\left(-\frac{4}{3}\right)\right)$

(3) $\csc\left(\cos^{-1}\left(\frac{\pi}{5}\right)\right)$

(10) $\sin\left(\cos^{-1}\left(\frac{3}{5}\right) - \tan^{-1}\left(\frac{5}{12}\right)\right)$

(4) $\tan\left(\cos^{-1}\left(-\frac{2}{5}\right)\right)$

(11) $\cos\left(\sin^{-1}\left(\frac{5}{13}\right) - \cot^{-1}\left(\frac{3}{4}\right)\right)$

(5) $\sin\left(\cos^{-1}(\theta)\right)$

(12) $\sin\left(\frac{\pi}{2} + \tan^{-1}(-3)\right)$

(6) $\sin\left(2\sin^{-1}\left(\frac{4}{5}\right)\right)$

(13) $\cos\left(\sin^{-1}(x) + \cos^{-1}(x)\right)$

(7) $\cos\left(2\tan^{-1}(3)\right)$

(14) $\tan\left(\sin^{-1}\left(\frac{12}{13}\right) - \cos^{-1}\left(\frac{8}{17}\right)\right)$

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Answers

(1) $\frac{5}{\sqrt{61}}$

(8) $\frac{1}{\sqrt{26}}$

(2) $\frac{15}{8}$

(9) $-\frac{1}{\sqrt{5}}$

(3) $\frac{5}{\sqrt{25 - \pi^2}}$

(10) $\frac{33}{65}$

(4) $-\frac{\sqrt{21}}{2}$

(11) $\frac{56}{65}$

(5) $\sqrt{1 - \theta^2}$

(12) $\frac{1}{\sqrt{10}}$

(6) $\frac{24}{25}$

(13) 0

(7) $-\frac{4}{5}$

(14) $\frac{21}{220}$