Inverse Trig with a Calculator Practice

Use a calculator to give each value in decimal degrees. See Example 3.

37. $\theta = \sin^{-1}(-.13349122)$

38. $\theta = \cos^{-1}(-.13348816)$

39. $\theta = \arccos(-.39876459)$

40. $\theta = \arcsin .77900016$

41. $\theta = \csc^{-1} 1.9422833$

42. $\theta = \cot^{-1} 1.7670492$

Use a calculator to give each real number value. See Example 3, but be sure the calculator is in radian mode.

43. $y = \arctan 1.1111111$

44. $y = \arcsin .81926439$

45. $y = \cot^{-1}(-.92170128)$

46. $y = \sec^{-1}(-1.2871684)$

47. $y = \arcsin .92837781$

48. $y = \arccos .44624593$

Inverse Trig without a Calculator

Find each value without using a calculator. See Examples 4 and 5.

57. $\tan\left(\arccos \dfrac{3}{4}\right)$

58. $\sin\left(\arccos \dfrac{1}{4}\right)$

59. $\cos(\tan^{-1}(-2))$

60. $\sec\left(\sin^{-1}\left(-\dfrac{1}{5}\right)\right)$

61. $\cot\left(\arcsin\left(-\dfrac{2}{3}\right)\right)$

62. $\cos\left(\arctan \dfrac{8}{3}\right)$

63. $\sec(\sec^{-1} 2)$

64. $\csc(\csc^{-1} \sqrt{2})$

65. $\arccos\left(\cos \dfrac{\pi}{4}\right)$

66. $\arctan\left(\tan\left(-\dfrac{\pi}{4}\right)\right)$

67. $\arcsin\left(\sin \dfrac{\pi}{3}\right)$

68. $\arccos(\cos 0)$

69. $\sin\left(2 \tan^{-1} \dfrac{12}{5}\right)$

70. $\cos\left(2 \sin^{-1} \dfrac{1}{4}\right)$

71. $\cos\left(2 \arctan \dfrac{4}{3}\right)$

72. $\tan\left(2 \cos^{-1} \dfrac{1}{4}\right)$

73. $\sin\left(2 \cos^{-1} \dfrac{1}{5}\right)$

74. $\cos(2 \arctan(-2))$

75. $\tan\left(2 \arcsin\left(-\dfrac{3}{5}\right)\right)$

76. $\sin\left(2 \arccos \dfrac{2}{9}\right)$

77. $\sin\left(\sin^{-1} \dfrac{1}{2} + \tan^{-1}(-3)\right)$

78. $\cos\left(\tan^{-1} \dfrac{5}{12} - \cot^{-1} \dfrac{4}{3}\right)$

79. $\cos\left(\arcsin \dfrac{3}{5} + \arccos \dfrac{5}{13}\right)$

80. $\tan\left(\arccos \dfrac{\sqrt{3}}{2} - \arcsin\left(-\dfrac{3}{5}\right)\right)$