WS 4.5 – How do I find an inverse? Name Key

Use the Unit Circle to find the angle measures (in radians) that would correctly fill in the blank.

1. $\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$	2. $\tan \frac{2\pi}{3} = -\sqrt{3}$	3. $\cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$
4. $\cos \frac{2\pi}{3} = -\frac{1}{2}$	5. $\tan \frac{\pi}{6} = \frac{\sqrt{3}}{3}$	6. $\tan \frac{5\pi}{6} = \frac{-\sqrt{3}}{3}$
7. $\tan \frac{3\pi}{4} = -1$	8. $\sin 0 = 0$	9. $\sin \frac{11\pi}{6} = -\frac{1}{2}$

In each problem, find the value of θ (in radians). No calculator. Circle your answer.

1. $\cos\theta = 0$ $\frac{\pi}{2}$	2. $\sin\theta = -\frac{\sqrt{2}}{2}$ $-\frac{\pi}{4}$	3. $\sin\theta = -\frac{\sqrt{3}}{2}$ $-\frac{\pi}{3}$
4. $\sin\theta = \frac{\sqrt{3}}{2}$ $\frac{\pi}{3}$	5. $\cos\theta = -1$ π	6. $\cos\theta = \frac{\sqrt{3}}{2}$ $\frac{\pi}{6}$
7. $\sin\theta = \frac{\sqrt{2}}{2}$ $\frac{\pi}{4}$	8. $\sin\theta = -1$ $-\frac{\pi}{2}$	9. $\sin\theta = \frac{1}{2}$ $\frac{\pi}{6}$
10. $\tan\theta =$ *undefined* $\frac{\pi}{2}$	11. $\tan\theta = 1$ $\frac{\pi}{4}$	12. $\cos\theta = -\frac{1}{2}$ $\frac{2\pi}{3}$
13. $\sin\theta = 1$ $\frac{\pi}{2}$	14. $\tan\theta = \frac{\sqrt{3}}{3}$ $\frac{\pi}{6}$	15. $\tan\theta = \sqrt{3}$ $\frac{\pi}{3}$
16. $\cos\theta = \frac{1}{2}$ $\frac{\pi}{3}$	17. $\sin\theta = -\frac{\sqrt{2}}{2}$ $-\frac{\pi}{4}$	18. $\cos\theta = -\frac{\sqrt{3}}{2}$ $\frac{5\pi}{6}$

In Exercises 53–56, find the value of θ in degrees ($0° < \theta < 90°$) and radians ($0 < \theta < \pi/2$) by using a calculator.

53. (a) $\sin\theta = 0.8191$ (b) $\cos\theta = 0.0175$

54. (a) $\cos\theta = 0.9848$ (b) $\cos\theta = 0.8746$

55. (a) $\tan\theta = 1.1920$ (b) $\tan\theta = 0.4663$

56. (a) $\sin\theta = 0.3746$ (b) $\cos\theta = 0.3746$

53. a. 55° .96 b. 89° 1.55

54. a. 10° .17 b. 29° .51

55. a. 50° .87 b. 25° .44

56. a. 22° .38 b. 68° 1.19