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6 Trig Values of Angles on the Unit Circle

Find the coordinates of the point at the given angle on the unit circle.

- 1. 90° $(0, 1)$
- 2. 180° $(-1, 0)$
- 3. -180° $(-1, 0)$
- 4. -90° $(0, -1)$
- 5. -270° $(0, 1)$
- 6. 540° $(1, 0)$
(180°)
- 7. 405° $(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$
(45°)
- 8. 315° $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$
- 9. -135° $(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$
- 10. $\frac{\pi}{4}$ $(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$
- 11. $-\frac{\pi}{4}$ $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$
- 12. $-\frac{5\pi}{6}$ $(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$
- 13. $-\frac{7\pi}{4}$ $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$
- 14. $\frac{16\pi}{3}$ $(-\frac{1}{2}, -\frac{\sqrt{3}}{2})$
($\frac{4\pi}{3}$)
- 15. $\frac{15\pi}{4}$ $(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})$
($\frac{7\pi}{4}$)

Find the 6 trig values for the following angles. Do not use a calculator.

Angle	Sin	cos	tan	csc	sec	cot
16. 210° $(-\frac{\sqrt{3}}{2}, -\frac{1}{2})$	Sin $-\frac{1}{2}$	cos $-\frac{\sqrt{3}}{2}$	tan $\frac{\sqrt{3}}{3}$	csc -2	sec $-\frac{2\sqrt{3}}{3}$	cot $\frac{1}{\sqrt{3}}$
17. $\frac{3\pi}{4}$ $(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$	$\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$\sqrt{2}$	$-\sqrt{2}$	-1
18. $\frac{3\pi}{2}$ $(0, -1)$	-1	0	und	-1	und	0
19. π $(-1, 0)$	0	-1	0	und	-1	und
20. 120° $(-\frac{1}{2}, \frac{\sqrt{3}}{2})$	$\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	$-\sqrt{3}$	$\frac{2\sqrt{3}}{3}$	-2	$-\frac{\sqrt{3}}{3}$

Find the exact value of each. Do not use a calculator!!!

$$1.) \sin\left(\frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

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

$$3.) \tan\left(\frac{\pi}{4}\right) = 1$$

$$4.) \cos(210^\circ) = -\frac{\sqrt{3}}{2}$$

$$5.) \sin(300^\circ) = -\frac{\sqrt{3}}{2}$$

$$6.) \tan(330^\circ) = -\frac{\sqrt{3}}{3}$$

$$7.) \sin\left(\frac{3\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$8.) \cos\left(\frac{3\pi}{4}\right) = -\frac{\sqrt{2}}{2}$$

$$9.) \sin(90^\circ) = 1$$

$$10.) \csc(270^\circ) = -1$$

$$11.) \tan(-45^\circ) = -1$$

$$12.) \cos\left(\frac{3\pi}{2}\right) = 0$$

$$13.) \tan\left(\frac{3\pi}{2}\right) = \text{undef}$$

$$14.) \sin(-135^\circ) = -\frac{\sqrt{2}}{2}$$

$$15.) \cos\left(-\frac{\pi}{2}\right) = 0$$

$$16.) \tan\left(\frac{5\pi}{4}\right) = 1$$

$$17.) \csc\left(\frac{\pi}{3}\right) = \frac{2\sqrt{3}}{3}$$

$$18.) \tan(-225^\circ) = -1$$

$$19.) \csc(2\pi) = \text{undef}$$

$$20.) \sin\left(\frac{14\pi}{6}\right) = \frac{\sqrt{3}}{2}$$

$$21.) \tan\left(\frac{21\pi}{4}\right) = 1$$

$$22.) \sec(150^\circ) = -\frac{2\sqrt{3}}{3}$$

$$23.) \tan\left(-\frac{10\pi}{3}\right) = -\sqrt{3}$$

$$24.) \sin(3\pi) = 0$$

$$25.) \sin(2\pi) = 0$$

$$26.) \cot\left(-\frac{17\pi}{6}\right) = \sqrt{3}$$

$$27.) \cos(-120^\circ) = -\frac{1}{2}$$

$$28.) \cot(600^\circ) = \frac{\sqrt{3}}{3}$$

$$29.) \sec\left(-\frac{\pi}{3}\right) = 2$$

$$30.) \cos\left(-\frac{\pi}{3}\right) = \frac{1}{2}$$

$$31.) \csc(-510^\circ) = -2$$

$$32.) \tan(-3\pi) = 0$$

$$33.) \sin(4\pi) = 0$$

$$34.) \cos\left(\frac{11\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$35.) \tan(-120^\circ) = -\frac{\sqrt{3}}{3}$$

$$36.) \sin(-\pi) = 0$$

$$37.) \cot(-150^\circ) = \sqrt{3}$$

$$38.) \sin(60^\circ) = \frac{\sqrt{3}}{2}$$

$$39.) \csc(60^\circ) = \frac{2\sqrt{3}}{3}$$

$$40.) \cos(30^\circ) = \frac{\sqrt{3}}{2}$$