

**Exact Values of Sines, Cosines, and Tangents** – in book: Section 4.4 p. 242

- 1) When looking at the unit circle, how can you remember which angles in the other quadrants will be the same coordinates as the

30° angle? \_\_\_\_\_

60° angle? \_\_\_\_\_

- 2) Find the tangent of the reference angles listed below.

Degree	0°	30°	45°	60°	90°
Radian	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
<b>tan x</b>					

**In Questions 3-10, give the exact values without using a calculator.**

3)  $\sin -\frac{\pi}{3}$

4)  $\cos \frac{3\pi}{4}$

5)  $\cos 30^\circ$

6)  $\sin \frac{2\pi}{3}$

7)  $\sin 240^\circ$

8)  $\cos -\frac{\pi}{4}$

9)  $\sin \frac{17\pi}{6}$

10)  $\cos -2115^\circ$

**In Questions 11-18, evaluate to the nearest hundredth.**

11)  $\cos 0.1234$

12)  $\sin 0.1234$

13)  $\sin 3$

14)  $\cos -4.1$

15)  $\sin 123^\circ$

16)  $\cos -272^\circ$

17)  $\cos 15$

18)  $\cos 15\pi$

- 19) Give two values of  $\theta$  between  $-3\pi$  and  $3\pi$  such that  $\cos \theta = 1$ .

Give two values of  $\theta$  between  $-3\pi$  and  $3\pi$  such that  $\sin \theta = 0$ .