

Key

Math 4

Name _____

Date _____

U4 Exact Values Learn Check 1

Find the values below without using a calculator. Feel free to sketch circles/triangles if it helps.

1. $\sin\left(\frac{\pi}{6}\right) = \frac{1}{2}$

6. $\sin\left(\frac{3\pi}{4}\right) = \frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}}$

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

7. $\cos\left(\frac{7\pi}{6}\right) = -\frac{\sqrt{3}}{2}$

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

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

4. $\cos\left(\frac{5\pi}{3}\right) = \frac{1}{2}$

9. $\tan\left(\frac{\pi}{3}\right) = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \frac{\sqrt{3}}{2} \cdot \frac{2}{1} = \sqrt{3}$




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

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

OVER →

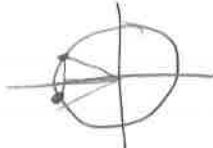
11. $\sin x = -\frac{1}{2}$



$$x = \frac{7\pi}{6}$$

$$x = \frac{11\pi}{6}$$

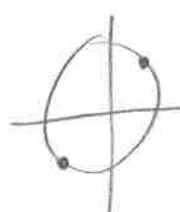
12. $\cos x = -\frac{\sqrt{3}}{2}$



$$x = \frac{5\pi}{6}$$

$$x = \frac{7\pi}{6}$$


13. $\tan x = 1$



$$x = \frac{\pi}{4}$$

$$x = \frac{5\pi}{4}$$

14. $\tan x = \sqrt{3} = \frac{\sqrt{3}}{1} = \frac{-\sqrt{3}}{-1} = \frac{\sin}{\cos}$



$$x = \frac{\pi}{3} \quad \text{or} \quad x = \frac{4\pi}{3}$$

Answer Bank for problems 1-10:

- A) $\frac{1}{2}$ B) $-\frac{1}{2}$ C) $\frac{\sqrt{2}}{2}$ D) $-\frac{\sqrt{2}}{2}$ E) $\frac{\sqrt{3}}{2}$ F) $-\frac{\sqrt{3}}{2}$ G) 0
- H) $\sqrt{3}$ I) $-\sqrt{3}$ J) $\frac{1}{\sqrt{3}}$ K) $-\frac{1}{\sqrt{3}}$ L) 1 M) -1
- N.) undefined

Answer Bank for problems 11-14:

- A) 0 B) $\frac{\pi}{6}$ C) $\frac{\pi}{4}$ D) $\frac{\pi}{3}$ E) $\frac{\pi}{2}$ F) $\frac{2\pi}{3}$ G) $\frac{3\pi}{4}$
- H) $\frac{5\pi}{6}$ I) π J) $\frac{7\pi}{6}$ K) $\frac{5\pi}{4}$ L) $\frac{4\pi}{3}$ M) $\frac{3\pi}{2}$ N) $\frac{5\pi}{3}$
- O) $\frac{7\pi}{4}$ P) $\frac{11\pi}{6}$