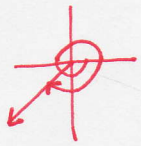
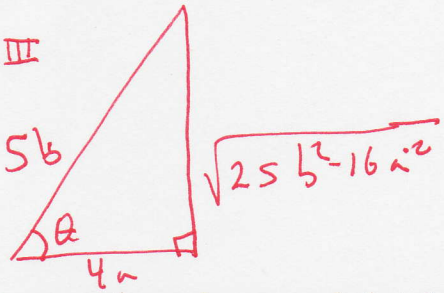
Trig quiz. 11.24.09 Name Key

For probs 1 – 3 give the exact value:

1. $\tan(\frac{-11\pi}{4}) =$ 1





2. $\cos(\sin^{-1}(\frac{\sqrt{25b^2-16a^2}}{5b}) =$ $\frac{4a}{5b}$ for prob 2 assume the angles are such that $0 \le \theta \le \frac{\pi}{2}$

3. $\sin^{-1}(\frac{-\sqrt{2}}{2}) =$ $-45°$ $= -\frac{\pi}{4}$ $-90°$

Prove this identity:

4. $\frac{1}{\sec x \tan x} = \csc x - \sin x$

$$\frac{1}{\frac{1}{\cos x}\frac{\sin x}{\cos x}} =$$

$$\frac{\cos^2 x}{\sin x} =$$

$$\frac{1-\sin^2 x}{\sin x} =$$

$$\frac{1}{\sin x} - \frac{\sin^2 x}{\sin x} =$$

$$\csc x - \sin x =$$

Solve these equations over the specified intervals:

$0 \le x < 2\pi$

5. $\cos^3(x) = \cos(x)$

$$\cos^3 x - \cos x = 0$$

$$\cos x(\cos^2 x - 1) = 0$$

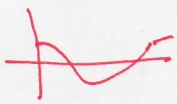
$\cos x = 0$: $90°, 270°$

$\cos^2 x - 1 = 0$

$\cos^2 x = 1$

$\cos x = \pm 1$

$0°, 180°$

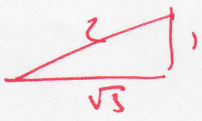


$0 \le x < 2\pi$

6. $\sin(x) = \frac{-\cos(x)}{\sqrt{3}}$ $\cos(x)$

$\cos x$

$\tan(x) = \frac{-1}{\sqrt{3}}$



ref $\angle = 30°$

$150°, 330°$