Student: _____	**Instructor:** Garth Isaak	**Assignment:** Trigonometry practice diagnostic 1a
Date: _____	**Course:** precalc blitzer (1)	
Time: _____	**Book:** Blitzer: Precalculus Essentials, 3e	

1. Convert the angle in degrees to radians. Express answer as a multiple of π.

$36°$

A. $\frac{\pi}{6}$ radians

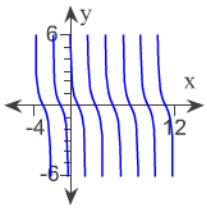
B. $\frac{\pi}{5}$ radians

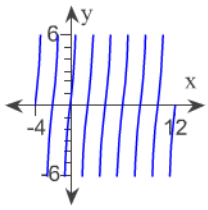
C. $\frac{\pi}{4}$ radians

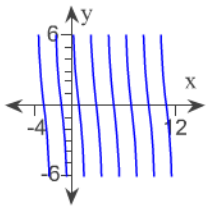
D. $\frac{\pi}{7}$ radians

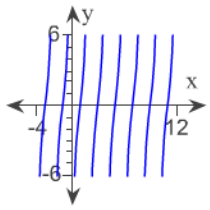
2. Graph the function.

$y = 4 \cot \frac{\pi}{2}x$

A.


B.


C.


D.


3. Find the exact value of the expression.

$\sin^{-1}\frac{\sqrt{3}}{2}$

A. $\frac{2\pi}{3}$

B. $\frac{\pi}{3}$

C. $\frac{\pi}{4}$

D. $\frac{3\pi}{4}$

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4. Use a right triangle to write the expression as an algebraic expression. Assume that x is positive and in the domain of the given inverse trigonometric function.

sin (tan $^{-1}$ x)

A. $\frac{\sqrt{x^2+1}}{x^2+1}$

B. $\frac{x\sqrt{x^2+1}}{x^2+1}$

C. $\frac{x\sqrt{x^2-1}}{x^2-1}$

D. $x\sqrt{x^2+1}$

5. A surveyor is measuring the distance across a small lake. He has set up his transit on one side of the lake 140 feet from a piling that is directly across from a pier on the other side of the lake. From his transit, the angle between the piling and the pier is 40°. What is the distance between the piling and the pier to the nearest foot? Use 0.84 to approximate **tan** (40)

A. 117 feet

B. 107 feet

C. 90 feet

D. 167 feet

6. Complete the identity.

$$\frac{\cos x + \sin x}{\cos x} - \frac{\sin x - \cos x}{\sin x} = ?$$

A. $2 - \sec x \csc x$

B. $2 + \sec x \csc x$

C. $1 - \sec x \csc x$

D. $\sec x \csc x$

7. Find all solutions of the equation.

$2\cos x - \sqrt{2} = 0$

A. $x = \frac{\pi}{4} + 2n\pi$ or $x = \frac{7\pi}{4} + 2n\pi$

B. $x = \frac{3\pi}{4} + n\pi$ or $x = \frac{5\pi}{4} + n\pi$

C. $x = \frac{\pi}{4} + n\pi$ or $x = \frac{7\pi}{4} + n\pi$

D. $x = \frac{3\pi}{4} + 2n\pi$ or $x = \frac{5\pi}{4} + 2n\pi$

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1. B

2. C

3. B

4. B

5. A

6. D

7. A