

Student: _____
Date: _____
Time: _____

Instructor: Garth Isaak
Course: precalc blitzer (1)
Book: Blitzer: Precalculus Essentials, 3e

Assignment: Trigonometry practice
diagnostic 1b

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

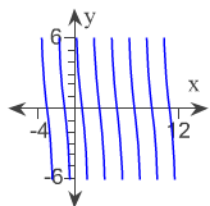
$$-160^\circ$$

- A. $-\frac{9\pi}{10}$ radians
- B. $-\frac{7\pi}{8}$ radians
- C. $-\frac{8\pi}{9}$ radians
- D. $-\frac{7}{9}\pi$ radians

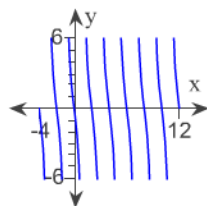
2. Graph the function.

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

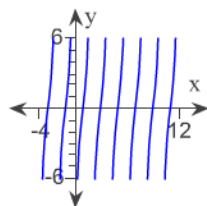
A.



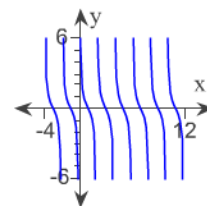
B.



C.



D.



3. Find the exact value of the expression.

$$\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$$

- A. $\frac{-\pi}{4}$
- B. $\frac{\pi}{4}$
- C. $\frac{-3\pi}{4}$
- 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.

$$\cos(\tan^{-1} x)$$

- A. $\frac{\sqrt{x^2 + 1}}{x^2 + 1}$
- B. $x\sqrt{x^2 + 1}$
- C. $\frac{x\sqrt{x^2 + 1}}{x^2 + 1}$
- D. $\frac{\sqrt{x^2 - 1}}{x^2 - 1}$
-

5. A building 270 feet tall casts a 60 foot long shadow. If a person stands at the end of the shadow and looks up to the top of the building, what is the angle of the person's eyes to the top of the building? (Assume the person's eyes are 5 feet above ground level.)

- A. $\tan^{-1}(5)$
- B. $\tan^{-1}(4.50)$
- C. $\tan^{-1}(60)$
- D. $\tan^{-1}(4.42)$
-

6. Complete the identity.

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

- A. $\tan x$
- B. $\cos x$
- C. $\cot x$
- D. 0
-

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7. Find all solutions of the equation.

$$2 \cos x - \sqrt{3} = 0$$

A. $x = \frac{\pi}{6} + 2n\pi$ or $x = \frac{11\pi}{6} + 2n\pi$

B. $x = \frac{5\pi}{6} + n\pi$ or $x = \frac{7\pi}{6} + n\pi$

C. $x = \frac{\pi}{6} + n\pi$ or $x = \frac{11\pi}{6} + n\pi$

D. $x = \frac{5\pi}{6} + 2n\pi$ or $x = \frac{7\pi}{6} + 2n\pi$

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1. C

2. C

3. D

4. A

5. D

6. B

7. A
