

Student: _____
Date: _____
Time: _____

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

Assignment: Trigonometry practice
diagnostic 3a

1. Find the exact value of the trigonometric function. Do not use a calculator.

$$\sec \frac{19\pi}{4}$$

- A. $-\sqrt{2}$
 B. $\frac{\sqrt{2}}{2}$
 C. $-\frac{2\sqrt{3}}{3}$
 D. -2

2. Determine the amplitude or period as requested.

Period of $y = 3 \cos(4\pi x + 2\pi)$

- A. $\frac{1}{2}$
 B. 4π
 C. $\frac{\pi}{2}$
 D. 2

3. Find the exact value of the expression.

$$\cos^{-1} \frac{\sqrt{2}}{2}$$

- A. $\frac{\pi}{6}$
 B. $\frac{7\pi}{4}$
 C. $\frac{\pi}{4}$
 D. $\frac{11\pi}{6}$

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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.

$$\sin \left[\tan^{-1} \left(\frac{x}{\sqrt{5}} \right) \right]$$

-
- A. $\frac{\sqrt{x^2 + 5}}{x^2 + 5}$
- B. $\frac{x\sqrt{x^2 - 5}}{x^2 - 5}$
- C. $\frac{x\sqrt{x^2 + 5}}{x^2 + 5}$
- D. $x\sqrt{x^2 + 5}$

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5. A building 290 feet tall casts a 40 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 4 feet above ground level.)

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- A. $\tan^{-1}(7.25)$
- B. $\tan^{-1}(7.15)$
- C. $\tan^{-1}(40)$
- D. $\tan^{-1}(4)$

-
6. Complete the identity.

$$\tan x(\cot x - \cos x) = ?$$

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- A. $-\sec^2 x$
- B. 1
- C. $1 - \sin x$
- D. 0
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7. Solve the equation on the interval $[0, 2\pi)$.

$$\cos 2x = \frac{\sqrt{3}}{2}$$

A. $\frac{\pi}{12}, \frac{11\pi}{12}, \frac{13\pi}{12}, \frac{23\pi}{12}$

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

C. $\frac{\pi}{2}$

D. $\frac{\pi}{6}, \frac{11\pi}{6}$

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1. A

2. A

3. C

4. C

5. B

6. C

7. A
