

Student: _____
Date: _____
Time: _____

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

Assignment: Trigonometry practice
diagnostic 2b

1. The point $P(x,y)$ on the unit circle that corresponds to a real number t is given. Find the value of the indicated trigonometric function at t .

$$\left(\frac{\sqrt{55}}{8}, \frac{3}{8}\right) \text{ Find } \sec t.$$

A. $\frac{8}{3}$

B. $\frac{8\sqrt{55}}{55}$

C. $\frac{3\sqrt{55}}{55}$

D. $\frac{\sqrt{55}}{3}$

2. Find the exact value of the indicated trigonometric function of θ .

$$\cos \theta = \frac{8}{17}; \frac{3\pi}{2} < \theta < 2\pi; \text{ Find } \cot \theta.$$

A. $-\frac{15}{8}$

B. $-\frac{8}{3}$

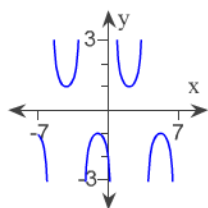
C. $\frac{17}{8}$

D. $-\frac{8}{15}$

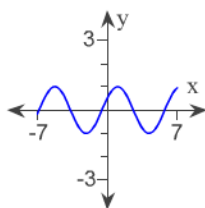
3. Graph the function.

$$y = \csc\left(x + \frac{\pi}{6}\right)$$

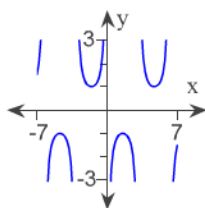
A.



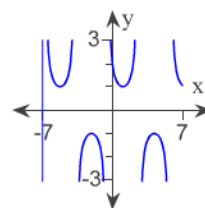
B.



C.



D.



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4. Use a sketch to find the exact value of the expression.

$$\cos \left[\tan^{-1} \left(\frac{2}{9} \right) \right]$$

- A. $\frac{2}{9}$
 B. $\frac{\sqrt{85}}{9}$
 C. $\frac{9}{85}$
 D. $\frac{9\sqrt{85}}{85}$

5. Complete the identity.

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

- A. $-\sec^2 x$
 B. 0
 C. 1
 D. $1 - \sin x$

6. Complete the identity.

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

- A. $\sec x \csc x$
 B. $2 + \sec x \csc x$
 C. $2 - \sec x \csc x$
 D. $1 - \sec x \csc x$

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7. Find all solutions of the equation.

$$7 \sin x + 5\sqrt{3} = 5 \sin x + 4\sqrt{3}$$

- A. $x = \frac{4\pi}{3} + n\pi$ or $x = \frac{5\pi}{3} + n\pi$
- B. $x = \frac{5\pi}{6} + n\pi$ or $x = \frac{7\pi}{6} + n\pi$
- C. $x = \frac{4\pi}{3} + 2n\pi$ or $x = \frac{5\pi}{3} + 2n\pi$
- D. $x = \frac{5\pi}{6} + 2n\pi$ or $x = \frac{7\pi}{6} + 2n\pi$
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1. B

2. D

3. D

4. D

5. D

6. A

7. C
