Pre-AP Precalculus

Chapter 6 Part 1 Test Review

Name _____ Date _____

Study these questions along with your quiz to get a good feel for everything you need to be able to do.

1. $5\cos(x+\frac{\pi}{2}) =$

   a) $5\cos x$ b) $2.5\pi\cos x$ c) $-5\sin x$
   d) $5\tan x$ e) $\frac{10}{\pi}\sin x$

2. $2\sin(3x+\frac{\pi}{6}) =$

   a) $\frac{12}{\pi}\sin(3x)$ b) $2\cos(3x+\frac{\pi}{6})$
   c) $6\sin(\frac{\pi x}{6})\cos(\frac{\pi x}{6})$ d) $\cos(3x)+\sin(3x)$
   e) $\cos(3x)+\sqrt{3}\sin(3x)$

3. $\tan(\frac{\pi}{4}+x) =$

   a) $\dfrac{\cos x+\sin x}{\sin x-\cos x}$ b) $\cos 2x$
   c) $\dfrac{\cot x+1}{\cot x}$ d) $\dfrac{\sin(2x)}{\cos x-\sin x}$
   e) $\dfrac{1+\tan x}{1-\tan x}$

4. If $\sin A = \frac{3}{5}$, $\sin B = \frac{5}{13}$, and angles A and B are acute angles, what is the value of $\cos(A-B)$?

   a) $-\frac{12}{65}$ b) $\frac{16}{65}$ c) $\frac{33}{65}$ d) $\frac{63}{65}$

5. Which expression is equivalent to $\sin 42^\circ\cos 48^\circ + \cos 42^\circ\sin 48^\circ$?

   a) 1 b) 0 c) $\sin 6^\circ$ d) $\cos 6^\circ$

6. The expression $\sin(90^\circ-\theta)$ is equivalent to

   a) $\cos\theta$ b) $\sin\theta$ c) $-\cos\theta$ d) $-\sin\theta$

7. If $\sin A = \frac{4}{5}$, $\tan B = \frac{5}{12}$, and A and B are first quadrant angles, what is the value of $\sin(A+B)$?

   a) $\frac{63}{65}$ b) $-\frac{33}{65}$ c) $\frac{33}{65}$ d) $-\frac{63}{65}$

8. If $\sin\theta = \cos\theta$, in which quadrants may angle θ terminate?

   a) I, II b) II, III c) I, III d) I, IV

9. Which is a value of x if $\sin 60^\circ = \cos(x+10^\circ)$?

   a) 10° b) 20° c) 50° d) 60°

10. $\cos 70^\circ\cos 40^\circ - \sin 70^\circ\sin 40^\circ$ is equivalent to

    a) $\cos 30^\circ$ b) $\cos 70^\circ$
    c) $\cos 110^\circ$ d) $\sin 70^\circ$

11. $\sin 96^\circ\cos 24^\circ + \cos 96^\circ\sin 24^\circ$ is equivalent to

    a) $\sin 60^\circ$ b) $-\sin 60^\circ$
    c) $\cos 60^\circ$ d) $-\cos 60^\circ$

12. The expression $\sin(180^\circ + A)$ is equivalent to

    a) $\cos A$ b) $\sin A$ c) $-\cos A$ d) $-\sin A$

13. What is the value of $\sin 210^\circ\cos 30^\circ - \cos 210^\circ\sin 30^\circ$?

    a) 1 b) -1 c) 0 d) 180

14. Since $\sin 75^\circ = \sin(30^\circ + 45^\circ)$, then $\sin 75^\circ$ equals

    a) $\dfrac{\sqrt{6}-\sqrt{2}}{4}$ b) $\dfrac{-\sqrt{6}+\sqrt{2}}{4}$
    c) $\dfrac{-\sqrt{2}-\sqrt{6}}{4}$ d) $\dfrac{\sqrt{2}+\sqrt{6}}{4}$

15. If $\cos(2x-1)^\circ = \sin(3x+6)^\circ$, then the value of x is

    a) -7 b) 17 c) 35 d) 71

16. If $\sin(x+20^\circ) = \cos x$, the value of x is

    a) 35° b) 45° c) 55° d) 70°

17. If $\tan A = \frac{2}{3}$ and $\tan B = \frac{1}{2}$, what is the value of $\tan(A+B)$?

    a) $\frac{1}{8}$ b) $\frac{7}{8}$ c) $\frac{1}{4}$ d) $\frac{7}{4}$

Pre-AP Pre-Cal

Identities Quiz A

Name _____ Date _____

1. For all values of x for which the expressions are defined, $\sec x - \tan x$ is equivalent to

a) 1 b) $\cos x - \cot x$ c) $\dfrac{1-\sin x}{\cos x}$ d) $\dfrac{\cos x - \sin^2 x}{\sin x \cos x}$

2. The expression $\dfrac{\sin^2 x + \cos^2 x}{\sin x}$ is equivalent to

a) $\csc x$ b) $\sec x$ c) $\sin x \cot x$ d) $\sin x \cos x \cot x$

3. The expression $\cos y(\csc y - \sec y)$ is equivalent to

a) $\cot y - 1$ b) $\tan y - 1$ c) $1 - \tan y$ d) $-\cos y$

4. The expression $(\cot\theta)(\sec\theta)$ is equivalent to

a) $\tan\theta$ b) $\cos\theta$ c) $\cot\theta$ d) $\csc\theta$

5. For all value of θ for which the expression is defined, $\dfrac{\sec\theta}{\csc\theta}$ is equivalent to

a) $\sin\theta$ b) $\cos\theta$ c) $\tan\theta$ d) $\cot\theta$

6. The expression $\dfrac{1-\sin^2 A}{2\cos A}$ is equivalent to

a) $\dfrac{\sin A}{2}$ b) $\dfrac{\cos A}{2}$ c) $\cos\frac{1}{2}A$ d) $2\cos A$

7. For all values of x for which the expression is defined, $\sec x \cdot \csc x \cdot \cos x$ is equivalent to

a) $\tan x$ b) $\sin x$ c) $\dfrac{1}{\sin x}$ d) $\dfrac{1}{\cos x}$

8. The expression $\sec^2\theta + \csc^2\theta$ is equivalent to

a) $1 - \tan^2\theta$ b) $1 + \tan^2\theta$ c) $\dfrac{1}{\sin^2\theta\cos^2\theta}$ d) $\sin^2\theta\cos^2\theta$

9. The expression $\dfrac{\sin^2 B}{\cos B} + \cos B$ is equivalent to

a) 1 b) $\dfrac{1}{\cos B}$ c) $\dfrac{1}{\sec B}$ d) $\sin^2 B$

10. The expression $\cos\theta(\sec\theta - \cos\theta)$ is equivalent to

a) 1 b) $\sin\theta$ c) $\sin^2\theta$ d) $-\cos^2\theta$

11. Expressed in the simplest form, $\csc\theta \cdot \tan\theta \cdot \cos\theta$ is equivalent to

a) 1 b) $\sin\theta$ c) $\cos\theta$ d) $\tan\theta$

12. The expression $\sin\theta\ (\cot\theta\ - \csc\theta)$ is equivalent to

a) $\cos\theta\ - \sin^2\theta$ b) $2\cos\theta$ c) $-\sin\theta$ d) $\cos\theta\ - 1$

13. The expression $\dfrac{\sin x \bullet \cos x}{\tan x}$ is equivalent to

a) 1 b) $\sin^2 x$ c) $\cos x$ d) $\cos^2 x$

Verify each identity.

14. $\dfrac{1}{1-\cos\theta} - \dfrac{1}{1+\cos\theta} = 2\csc\theta\cot\theta$

Pre-AP Pre-Cal Identities Quiz A 10/29/2012

Answer List

1.	c	2.	a	3.	a
4.	d	5.	c	6.	b
7.	c	8.	c	9.	b
10.	c	11.	a	12.	d
13.	d	14.			

Catalog List

1.	NY1 HE 8	2.	NY1 HE 24	3.	NY1 HE 35
4.	NY1 HE 38	5.	NY1 HE 52	6.	NY1 HE 104
7.	NY1 HE 109	8.	NY1 HE 123	9.	NY1 HE 189
10.	NY1 HE 213	11.	NY1 HE 285	12.	NY1 HE 303
13.	NY1 HE 313	14.	TRI QC 45		