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Date: \_\_\_\_\_  
Class: \_\_\_\_\_

Geometry  
Review

Trig Comparison Questions:

1) In right triangle ABC,  $\angle B$  is a right angle,  $AC = 13$ , and  $AB = 12$ . Which of the following would always be true?

1)  $\tan A = \frac{12}{5}$       2)  $\tan C = \frac{12}{5}$       3)  $\sin C = \frac{5}{13}$       4)  $\sin A = \frac{12}{13}$

2) In right triangle ABC,  $\angle B$  is the right angle.  $AC = 10$  and  $BC = 4$ . Which of the following would be true?

a)  $\sin C = \frac{4}{10}$       2)  $\cos A = \frac{4}{10}$       3)  $\sin A = \frac{\sqrt{84}}{10}$       4)  $\tan C = \frac{\sqrt{84}}{4}$

3) Right triangle ABC has right angle A and AB is twice as long as AC. Which of the following is true?

1)  $\tan B = \tan C$       2)  $\sin C = \sin B$       3)  $\cos C = \sin C$       4)  $\cos C = \sin B$

4) Which of the following is equivalent to  $\cos(x)$  for all  $x$ 's that fall into the following range:  $0^\circ < x < 90^\circ$ ?

1)  $\sin(2x)$       2)  $\sin(45 - x)$       3)  $\sin(x)$       4)  $\sin(90 - x)$

5) In  $\triangle ABC$ ,  $\angle C$  is a right angle and  $BC:AC = 3:4$ . Which of the following would not be true?

1)  $\sin A = \frac{3}{5}$       2)  $\tan A = \frac{3}{4}$       3)  $\cos A = \frac{3}{5}$       4)  $\sin B = \frac{4}{5}$

6) [3] If  $\triangle ABC$  is a right triangle with  $\angle C$  as the right angle and the triangle is also isosceles, which of the following is not true and explain?

1)  $\sin A = \sin B$       2)  $\cos A = \cos B$   
3)  $\tan A = \tan B$       4)  $\tan A = \sin B$

7) [3] In right triangle ABC,  $\angle B$  is a right angle. If the sides are in the ratio of  $BC:AB:AC = 3:4:5$  which of the following is not true?

1)  $\sin A = \frac{3}{5}$       2)  $\tan A = \frac{4}{3}$   
3)  $\sin C = \frac{4}{5}$       4)  $\cos B = \frac{3}{5}$

8) [3] In right  $\triangle RSY$ ,  $\angle Y$  is a right angle and  $\overline{RY} \cong \overline{YS}$ . Which of the following is not true?

1)  $\cos(S) = \cos(R)$       2)  $\sin(S) = \sin(R)$   
3)  $\tan(S) = \tan(Y)$       4)  $\tan(S) = \tan(R)$

9) [3] Which of the following is equivalent in triangle CDE if D is the right angle?

1 -  $\tan(C) = \tan(E)$       2 -  $\sin(C) = \tan(E)$   
3 -  $\cos(C) = \tan(E)$       4 -  $\sin(C) = \cos(E)$

10) Which expression is always equivalent to  $\sin x$  when  $0^\circ < x < 90^\circ$ ?

(1)  $\cos(90^\circ - x)$       (3)  $\cos(2x)$   
(2)  $\cos(45^\circ - x)$       (4)  $\cos x$

11) In  $\triangle ABC$ , the complement of  $\angle B$  is  $\angle A$ . Which statement is always true?

(1)  $\tan \angle A = \tan \angle B$

(3)  $\cos \angle A = \tan \angle B$

(2)  $\sin \angle A = \sin \angle B$

(4)  $\sin \angle A = \cos \angle B$

12) In right triangle  $ABC$ ,  $\angle C$  is a right angle.

Which equation is always true?

(1)  $\sin A = \sin B$

(3)  $\cos A = \sin C$

(2)  $\cos A = \cos B$

(4)  $\sin A = \cos B$

13) In right triangle  $ABC$ ,  $\angle B$  is a right angle. Which of the following is always true?

1)  $\cos C = \cos A$

2)  $\cos C = \sin A$

3)  $\sin C = \sin A$

4)  $\tan A = \tan B$