Trigonometry

Quiz 5

9.20.2012 Name _____

Covering A1 – A4, and a bit of A5 **Block.** _____

_____ 1. In terms of x, y, and r, define sec θ

A. $\frac{x}{r}$ B. $\frac{y}{r}$ C. $\frac{r}{y}$ D. $\frac{r}{x}$ E. $\frac{x}{y}$ F. $\frac{y}{x}$

_____ 2. Give the exact value of $\sec(-150)$

A. $-\sqrt{3}$ B. $\frac{-\sqrt{3}}{3}$ C. $\frac{-\sqrt{3}}{2}$ D. $\frac{-1}{2}$ E. $\frac{2}{-\sqrt{3}}$ F. -1.1547

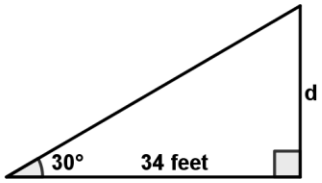
_____ 3. Find the complement of an angle whose measure is $\frac{2\pi}{7}$

A. $\frac{-5\pi}{7}$ B. $\frac{3\pi}{7}$ C. $\frac{9\pi}{7}$ D. $\frac{-4\pi}{7}$ E. $\frac{2\pi}{7}$ F. $\frac{23\pi}{7}$ G. $\frac{3\pi}{14}$

_____ 4. An angle of 1900^0 in standard position has its terminal side in which quadrant?

A. I B. II C. III D. IV

_____ 5. During the course of solving a problem, a student produced the diagram shown at the right. In a right angle triangle, an angle of 30^o is across from a side of length d, and the other leg is 34 feet long. Which of the following is correct for the length of the leg labeled d?



A. $34\sqrt{3}$ B. $\frac{34}{\sqrt{3}}$ C. $68\sqrt{3}$ D. $\sqrt{3}$

E. $\frac{1}{\sqrt{3}}$ F. $34\sqrt{2}$

_____ 6. Suppose θ is an angle in standard position which terminates in quadrant II and for which the cos value is $\frac{-5}{13}$. Find $\sin\theta$

A. $\frac{-12}{13}$ B. $\frac{2\pi}{7}$ C. $-\sqrt{3}$ D. $\frac{-1}{2}$ E. 30^o F. $\frac{12}{13}$

_____ 7. Suppose we draw an angle whose measure is 3800^o in standard position. In what quadrant will its terminal side be located?

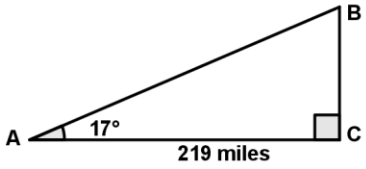
A. I B. II C. III D. IV

_____ 8. Consider an angle θ in standard position whose measure is 210^o. What is the measure of this angle in radians?

A $\frac{5\pi}{6}$ B. $\frac{7\pi}{6}$ C. $\frac{\pi}{2}$ D. $\frac{\pi}{6}$ E. $\frac{4\pi}{5}$

_____ 9. Determine correct to 4 decimal places: sec(1.5 radians). A calculator might prove helpful.
A. 14.1368 B.0.0707 C. 1.0025 D. 0.9975 E. 1.0003

_____ 10. Consider the diagram shown at the right. Which trig function involves the values of $\angle A$, 219 miles, and $\overline{BA}$



A. sin B. cos C. tan

_____ 11. In the 30—60—90 triangle, which leg is across from the 60 degree angle?
A. shortest leg
B. longest leg
C. hypotenuse

_____ 12. Suppose we have a triangle whose angles are 30, 60, and 90 degrees. Suppose further that the shorter leg has length = $\sqrt{7}$ meters. What is the length in meters of the longer leg?

A. $\sqrt{3}$ B. $\sqrt{14}$ C. $\sqrt{2}\cdot\sqrt{3}$ D. 5 E. $\sqrt{21}$

_____ 13. In what quadrant are both cos(θ) and sin(θ) negative?
A. I B. II C. III D. IV

_____ 14. In what quadrant is tan(θ) negative and cos(θ) positive?
A. I B. II C. III D. IV

_____ 15. In which quadrant is cos(θ) negative and cot(θ) negative?
A. I B. II C. III D. IV

_____ 16. In which quadrant is csc(θ) positive and cot(θ) positive?
A. I B. II C. III D. IV

_____ 17. In our study of the various trigonometric functions, we have three functions whose names all start with the letters "co". These functions are cosine, cosecant, and cotangent. Which of the following mathematical terms is most clearly related to the reason each of these three names starts with "co"

A. cofunction B. coordinate C. complement D. coincident E. consanguinity
F. confusion

_____ 18. Compute the exact value of tan($\left(\frac{-5\pi}{3}\right)$

A. $\sqrt{2}$ B. $\sqrt{3}$ C. $\frac{-\sqrt{3}}{2}$ D. $-\sqrt{3}$ E. $\frac{-1}{\sqrt{3}}$

_____ 19. Suppose θ is an angle in standard position whose terminal side passes through (-24,7). Give the value of tan(θ).

A $\frac{-25}{7}$ B. $\frac{7}{-24}$ C. $\frac{-24}{7}$ D. $\frac{-\sqrt{19}}{25}$ E. $\frac{24}{25}$

_____ 20. Suppose θ is an angle in standard position whose terminal side passes through the point (-8, -15). Give the value of sin(θ).

A $\frac{-15}{17}$ B. $\frac{-8}{17}$ C. $\frac{17}{-8}$ D. $\frac{15}{8}$ E. $\frac{-17}{15}$