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Algebra 2: Unit 8(COVID) – Unit Circle and Trig Functions Unit Exam

**Part I: Answer all questions in this part. Write your answer choice in the space provided.**

\_\_\_1\_\_\_\_\_1. If , what is the exact value of  ?

(1) 3 (3) 5



(2) 1 (4) 0

\_\_\_4\_\_\_\_ 2. What is the exact value of ?

(1) (3)



(2) (4)



\_\_\_\_\_2\_\_\_3. The expression  is equal to

(1)  (3) 0

(2)  (4) 



\_\_\_1\_\_\_\_\_4. If and , then which quadrant does  lie?

(1) I (3) III



(2) II (4) IV

\_\_\_\_2\_\_\_\_5. If , what is the exact value of  ?

(1) 0 (3) 2

(2) 2 (4) 1



\_\_\_4\_\_\_\_\_6. If the terminal side of angle , in standard position, passes through the point , what is the numerical value of ?

1.  (3) 
2.  (4) 



\_\_3\_\_\_\_\_\_ 7. Which of the following angles would ***not***have a reference angle equal to 

(1)  (3) 



(2) (4) 

\_\_\_\_3\_\_\_\_8. When drawn in standard position, which of the following angles is coterminal to one that

measures 

(1)  (3) 



(2)  (4) 

\_\_\_\_1\_\_\_\_ 9. The terminal ray of an angle drawn in standard position passes through the point (0.28, -0.96),

which lies on the unit circle. Which of the following represents the *Sine* of this angle?

(1) -0.96 (3) 0.28



(2) -0.68 (4) -0.29

\_\_\_\_\_3\_\_\_10. The point *A* (-5, 12) lies on the circle whose equation is  Which of the following

would represent the *Cosine* of an angle drawn in standard position whose terminal ray passes

through *A*?

(1) -5 (3) 



(2) (4) 12

\_\_\_\_2\_\_\_\_11. What is not in the range of ?

(1) 1 (3) 1

(2) 2 (4) 



\_\_\_\_3\_\_\_ 12. If both the sine and cosine of an angle are less than zero, then when drawn in standard position in

which quadrant would the terminal ray fall?

(1) I (3) III



(2) II (4) IV

\_\_\_\_\_1\_\_ 13. The point (0.28, 0.96) lies on the unit circle. Which of the following is closest to the *Tangent* of

an angle drawn in standard position whose terminal ray passes through this point?

(1) 3.43 (3) 0.29

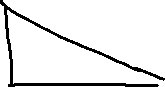


(2) 1.73 (4) 0.42

\_\_\_1\_\_\_\_ 14. When drawn in standard position, an angle  has a terminal ray that lies in the third quadrant. It is known that  Which of the following represents the *sin* 



­­ (1)  (3) 



(2)  (4) 



\_\_\_4\_\_\_\_ 15. The point E (-7, -24) lies on the circle whose equation is  If an angle is drawn in

standard position and its terminal ray passes through *E*, what is the value of the sine of this angle?

(1) -7 (3) -24



(2)  (4) 



**Part II**: **Show all work for each question in this section.**

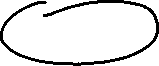
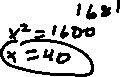
16. When drawn in standard position, an angle has a terminal ray that lies in the second



quadrant and whose *sine* is equal to  Find the *cosine* of in rational form (as a fraction).



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17. If the terminal ray of  lies in the fourth quadrant and *sin* determine *cos*  in

simplest form.

