Name: ____________________ Date: ____________

7-3 THE DEFINITION OF THE SINE AND COSINE FUNCTIONS HOMEWORK

FLUENCY

1. Which of the following is the value of $\sin\left(60^\circ\right)$?

(1) $\frac{\sqrt{2}}{2}$ (3) $\frac{\sqrt{3}}{2}$

(2) $\frac{1}{2}$ (4) $\frac{2}{3}$ ________

2. Written in exact form, $\cos\left(135^\circ\right)=?$

(1) $-\frac{1}{2}$ (3) $-\frac{\sqrt{3}}{2}$

(2) $-\frac{\sqrt{2}}{2}$ (4) $-\frac{\pi}{4}$ ________

3. Which of the following is not equal to $\sin\left(270^\circ\right)$?

(1) $\cos\left(180^\circ\right)$ (3) $-\sin\left(90^\circ\right)$

(2) $-\cos\left(0^\circ\right)$ (4) $\sin\left(360^\circ\right)$ ________

4. The terminal ray of an angle drawn in standard position passes through the point $\left(0.28,-0.96\right)$, 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 ________

5. The point $A\left(-5,12\right)$ lies on the circle whose equation is $x^2+y^2=169$. Which of the following would represent the cosine of an angle drawn in standard position whose terminal rays passes through A?

(1) –5 (3) $-\frac{5}{13}$

(2) $-\frac{5}{12}$ (4) 12 ________

6. Which of the following values cannot be the sine of an angle? Hint, think about the range of y-values on the unit circle.

(1) $\frac{7}{13}$ (3) $-\frac{3}{2}$

(2) $-\frac{\sqrt{5}}{3}$ (4) $\frac{\sqrt{11}}{4}$ ________

7. For an angle drawn in standard position, it is known that its cosine is negative and its sine is positive. The terminal ray of this angle must terminate in which quadrant?

(1) I (3) III

(2) II (4) IV ________

8. 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 ________

9. Which of the following has a cosine that is different from $\sin\left(30^\circ\right)$?

(1) 60° (3) -60°

(2) -300° (4) 120° ________

10. When drawn in standard position, an angle α has a terminal ray that lies in the second quadrant and whose sine is equal to $\frac{9}{41}$. Find the cosine of α in rational form (as a fraction).

11. If the terminal ray of β lies in the fourth quadrant and $\sin\left(\beta\right)=-\frac{\sqrt{3}}{3}$ determine $\cos\left(\beta\right)$ in simplest form.