

Name: \_\_\_\_\_

Period: \_\_\_\_\_

Row: \_\_\_ Seat: \_\_\_

**MPS22 EXAM 3 PRACTICE TEST**

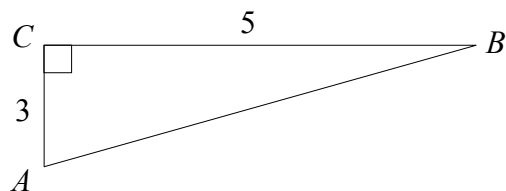
**SHOW ALL WORK.** Give exact answers unless indicated otherwise. Place a box around your final answers. Point values are given in brackets.

1. (a) Convert to degrees: [ 8 ]

$$\frac{15\pi}{9}$$

(b) Convert to radians and express in simplest form:  $860^\circ$

2. Find the exact values of  $\sin A$ ,  $\cos A$ , and  $\tan A$  given  $\triangle ABC$  shown below. [ 8 ]



3. Sketch the given angle in standard position and state one positive and one negative coterminal angle. [ 8 ]  
 $-405^\circ$

4. Find the six trigonometric functions of the angle  $\theta$  (in standard position) whose terminal side passes through the point  $(-4, -6)$ . [ 12 ]

5. Given the equation [ 10 ]

$$y = -4\sin(5x - 7) + 11$$

State the following:

Amplitude: \_\_\_\_\_

Frequency: \_\_\_\_\_

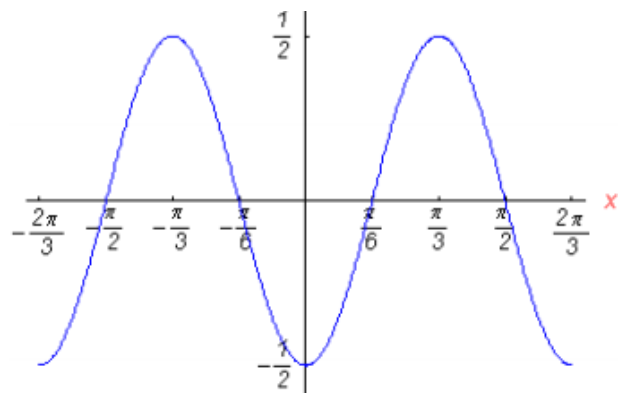
Period: \_\_\_\_\_

Vertical Shift: \_\_\_\_\_

Phase Shift: \_\_\_\_\_

6. Write the equation of the curve below in: [ 8 ]

the form  $y = a \cos(bx) + c$



7. State the reference angle for each angle: [ 6 ]  
(a)  $1,300^\circ$

(b)  $-\frac{12\pi}{5}$

8. Write the equation of a cosine curve with [ 8 ]  
period  $6\pi$ , amplitude 4, and with a maximum value of 10.

9. Find the exact value of each trigonometric function in simplest radical form: [ 18 ]

(a)  $\cos 30^\circ$

(a)  $\sin 540^\circ$

(c)  $\tan \frac{3\pi}{4}$

(d)  $\cot\left(\frac{-11\pi}{3}\right)$

(e)  $\sec \frac{5\pi}{3}$

(f)  $\csc \frac{15\pi}{2}$

10. Given the equation  $y = 2\cos\left(2x - \frac{\pi}{2}\right) + 1$ . [ 14 ]

(a) State the amplitude: \_\_\_\_\_

(b) State the period: \_\_\_\_\_

(c) State the phase shift: \_\_\_\_\_

(d) Sketch at least two complete cycles of the graph  $y = 2\cos\left(2x - \frac{\pi}{2}\right) + 1$ .

