High School for Health Professions and Human Services
Robert Gentile, Principal
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Mathematics Department
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Name: _____ Period: _____

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MPS22 EXAM 3 *PRACTICE TEST*

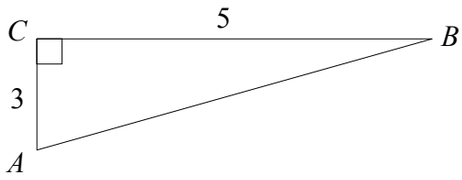
SHOW ALL WORK. Give exact answers unless indicated otherwise. Place a box around your final answers. Point values are given in brackets.

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

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

(b) Convert to radians and express in simplest form: $860°$

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



3. Sketch the given angle in standard position and state one positive and one negative coterminal angle. [8]

$-405°$

4. Find the six trigonometric functions of the angle θ (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: _____

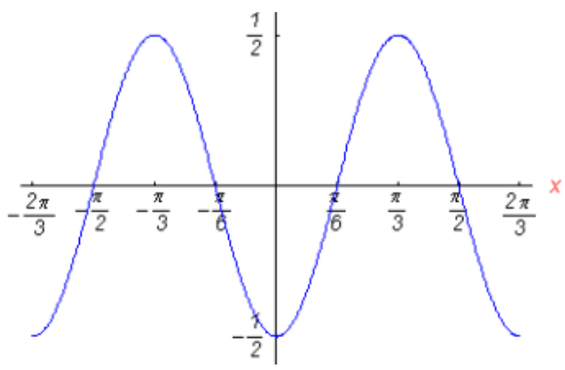
Frequency: _____

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 period 6π, amplitude 4, and with a maximum value of 10. [8]

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 $y = 2\cos\left(2x - \frac{\pi}{2}\right) + 1$.