Bronx High School of Science
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Mathematics Department
Michael Contente, Coordinator
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Name: _____ Period: _____ **M$6 Quiz 1 PRACTICE (50 points)**

Show all work. Place your final answer in the space provided. *No calculators are permitted.*

1. Find the exact value of each in simplest radical form. [2 pts. each]

   a. $\sin 210°$

   a. ☐

   b. $\sec \frac{7\pi}{4}$

   b. ☐

   c. $\cot \frac{3\pi}{2}$

   c. ☐

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2. Express each as a function of a positive acute angle. [2 pts. each]

   a. $\sin 470°$

   a. ☐

   b. $\tan(-550°)$

   b. ☐

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3. Sketch the graphs of $y = \cos 2x$ and $y = -3\sin\left(\frac{1}{2}x\right) + 1$ over the interval $0 \le x \le 4\pi$ [12 pts.]
   on the same set of axes.

4. Find all values of x in the interval $0^\circ \le x < 360^\circ$ that satisfy the equation: [12 pts.]
$3\tan x + \sqrt{3} = 2\sqrt{3}$.

Solution Set:

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5. Find all values of θ in the interval $0 \le \theta < 2\pi$ that satisfy the equation: [16 pts.]
$\cos^2\theta - \sin^2\theta + 3\cos\theta + 2 = 0$.

Solution Set: