GRAPHING TRIG Functions

Trig practice WS #4

1. a. Graph $y = 2\cos\theta$ over $0 \le \theta \le 720°$.

   b. Find and label on your graph all 4 solutions to $2\cos\theta = 1$.

2. a. What is the period and amplitude of $y = 5\sin 2\theta$?

   b. Sketch the graph over $-180° \le \theta \le 180°$.

   c. Find and label all 4 solutions to $5\sin 2\theta = 6.2$.

3. a. What is the period of $y = -8\cos\left(\frac{1}{2}x\right)$ in radians?

   b. Sketch two complete cycles of the function.

   c. Find y if $x = 2\pi$.

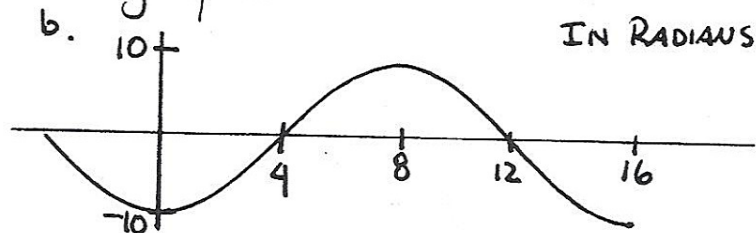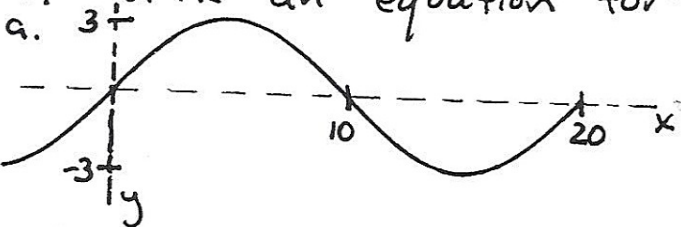   d. If $0 \le x \le 2\pi$, solve $-8\cos\left(\frac{1}{2}x\right) = 4$. Put your calculator on radian mode.

4. a. Sketch $y = \tan\theta$ over $-90 \le \theta \le 90°$.

   b. Does the tangent curve have an amplitude? a period?

   c. What happens to the period of a tangent curve if we change it to the $y = \tan 3\theta$?

5. During "King" tides, the difference between high and low tide can be as much as 12 feet. Assume high tide, $+6$ft, occurs at midnight and low tide, -6ft, occurs at 6am. Sketch a 12 hour graph of the height of the tide as a function of time. Write the equation of the function. Find the two times when the tide was $+4$ ft.

6. Write an equation for each graph.

a.

b.

IN RADIANS

7. Find the exact value of $\frac{1}{\sin\theta} + \frac{1}{\cos\theta}$ using the 3-4-5 $\triangle$.