REVISION QUESTIONS (5)

1. If Sin(A) = $\frac{3}{5}$ $and\ 90^\circ \leq A \leq 180^\circ, find\ exact\ values\ for$:

   a. Sin(2A)

   b. Cos(2A)

   c. Tan(2A)

2. If Sin(2A) = $\frac{-24}{25}$ $and\ 2\cos(A) = \frac{-8}{5}, with\ 90^\circ \leq A \leq 180^\circ\ what\ is$:

   a) Cos(2A)

   b) Tan(2A)

   c) Cos(4A)

3. Prove the following identities:
   a. $sin(2A)\tan(A) = 2sin^2(A)$

   b. $\frac{1-\cos(2A)}{1+\cos(2A)} = tan^2(A)$

   c. $\sin(4A) = 4\sin(A)\cos^3(A) - 4sin^3(A)\cos(A)$

   d. $\cos(A)\sin(2A) = 2\sin(A) - 2sin^3(A)$

4. Solve for the following:

   a. $\cos(2x) + \sin(x) = 0 \; for \; -\pi < x < \pi$

   b. $\tan(2x) = \cot(x) \; for \; -\pi < x < \pi$

   c. $2sin^2(x) + 5\cos(x) + \cos(2x) = 3 \; for \; -\pi < x < \pi$

5. What is:
   a. $cos(a+b) - \cos(a-b)$

   b. $cos(a-b) - \cos(a+b)$

   c. $\sin(a+b) - \sin(a-b)$

   d. $\sin(a-b) - \sin(a+b)$

   e. $cos(a-b) + \cos(a+b)$

   f. $cos(a+b) + \cos(a-b)$

   g. $\sin(a-b) + \sin(a+b)$

6. So simplify this:
    a. Sin(x)cos(3x)
    b. Sin(x)Sin(3x)
    c. Cos(-3x)cos(-8x)
    d. Cos(-5x)cos(-5x)
    e. Tan(-4x)tan(3x)