Algebra II Trig Transformations   Name:

I.   Compare and Contrast each of the following graphs using your graphing calculator.
       (1) $F(x) = \sin x$ and $G(x) = \sin(2x)$

       (2) $F(x) = 3\sin(2x)$, $G(x) = 3\sin\left(2\left(x - \frac{\pi}{2}\right)\right)$

       (3) $F(x) = 3\cos 4x$, $G(x) = -3\cos(4x)$, $H(x) = -3\cos(4x) + 5$, and
                        $M(x) = -3\sin(4(x - \pi)) + 5$

II.   Make some predictions about how the graph of $f(x) = A\sin(Bx - C) + D$ changes
       when:
       (a) only A changes

       (b) only B changes

       (c) only C changes

       (d) only D changes

III.   How can you test your predictions?

Teacher notes: make sure for III you press students on how you can verify that A in fact changes
the amplitude (what must they make A,B,C,D) and do the same for the others.