Precalc BC   **2-D Multiplication**   **Name:**

Convert the 2-D numbers below to a magnitude/angle representation (make sure you have the right angles, use a sketch), perform the indicated operations, and then convert back. Your answers should consist of integers. Look for a pattern.

1. If $A = \langle 3,5 \rangle$ and $B = \langle -4,2 \rangle$, calculate A x B.

2. If $C = \langle -3,-1 \rangle$ and $D = \langle -2,5 \rangle$, calculate C x D.

3. $E = \langle -6,-2 \rangle$, $F = \langle 5,-4 \rangle$, find F x G

4. $G = \langle 10,11 \rangle$, $H = \langle 4,1 \rangle$, find the inverse of H and use it to calculate G÷H.

5. Using A from problem 1, calculate A^2.

6. Perform the indicated operations below *geometrically*. Use approximate angles.

a + b

a x b

a²

1/a

a x b

a/b