

Calculator test problem: $10 + (8 \angle 50^\circ)(5 - j12)$
= 109.3 - j31.1 (in rectangular form)
= 113.6 $\angle -15.9^\circ$ in polar form

1. Use your calculator to evaluate $\frac{15 \angle 45^\circ}{3 - j4} + j2$ and write result in rectangular form.
2. Use your calculator to evaluate $5 \angle 30^\circ \left(6 - j8 + \frac{3 \angle 60^\circ}{2 + j} \right)$ and write result in polar form.
3. Find the phasor corresponding to
 - a) $v(t) = 21 \cos(4t - 15^\circ)$ V
 - b) $i(t) = -8 \sin(10t + 70^\circ)$ mA (careful; phasors are in terms of cos, not sin)
4. Using phasors, write $40 \sin(50t) + 30 \cos(50t - 45^\circ)$. Write the result in $C \cos(\omega t + \theta)$ form (that is, solve for C, ω , and θ).