

BONUS - COMPLEX NUMBERS
POLAR FORM
NOV 30TH 2011
SOLUTIONS

1- Express in RECTANGULAR FORM

$$a. \frac{31}{25^\circ} = 31 \cos 25^\circ + 31 \sin 25^\circ j$$

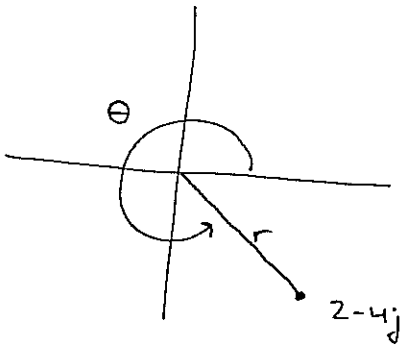
$$= \boxed{28.1 + 13.1j}$$

$$b. \frac{12}{171^\circ} = 12 \cos 171^\circ + 12 \sin 171^\circ j$$

$$= \boxed{-11.85 + 1.88j}$$

2. Express in POLAR FORM

a- $2 - 4j$



$$r^2 = 2^2 + 4^2$$

$$r = \sqrt{20}$$

$$\theta = 296.57^\circ$$

Polar Form

$$\boxed{\frac{\sqrt{20}}{296.57^\circ}}$$

b- $-1 - 3j$

Polar Form

$$\boxed{\frac{\sqrt{10}}{251.57^\circ}}$$

c- $-2 + 5j$

Polar Form

$$\boxed{\frac{\sqrt{29}}{111.8^\circ}}$$