**1A Exponential Form**

1. Express the numbers following numbers in the modulus argument form:
2. $z\_{1}=1+i\sqrt{3}$



1. $z\_{2}=-3-3i$



1. Express the complex number $z=2 –3i$ in the form $re^{iθ}$, where $-π<θ\leq  π$



1. Express the following in the form $z=re^{iθ}$where $–π<θ\leq π$
2. $z=\sqrt{2}\left(cos\left(\frac{π}{10}\right)+isin\left(\frac{π}{10}\right)\right)$
3. $z=5\left(cos\left(\frac{π}{8}\right)-isin\left(\frac{π}{8}\right)\right)$
4. Express the following in the form $z=x+iy $ where $x\in R$ and $y\in R$

$$z=\sqrt{2}e^{\frac{3π}{4}i}$$

1. Express the following in the form $r(cosθ+isinθ)$*,* where $–π<θ\leq π$

$$z=2e^{\frac{23π}{5}i}$$

1. Use: $e^{iθ}=cosθ+isinθ$ To show that: $cosθ=\frac{1}{2}\left(e^{iθ}+e^{-iθ}\right)$