Practice worksheet | Complex Numbers

De Moivre's theorem

Name: _____ Date: _____

6 questions | 14 marks

1. Calculate $(\sqrt{3}+i)^3$. [2 marks]

2. Calculate $(1-i)^6$. [2 marks]

3. Write $(2\text{cis}(\pi/3))^{-2}$ in polar form. [2 marks]

4. Use de Moivre and a square expansion to obtain a formula for $\cos 2\theta$. [3 marks]

5. Show that $(\text{cis}(\pi/5))^{10} = 1$. [2 marks]

6. Find the least positive integer n for which $(\text{cis}(2\pi/7))^n = 1$. [3 marks]