Pre-Calculus AB Name_____

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Worksheet 30 - Lesson 80

Date_____ Period____

1) Find and express in rectangular coordinates $\left(5\left(\cos\frac{\pi}{6}+\sin\frac{\pi}{6}\cdot i\right)\right)^3$

2) Find and express in rectangular coordinates $\left(-\frac{1}{3}\left(\cos\frac{7\pi}{15}+\sin\frac{7\pi}{15}\cdot i\right)\right)^5$

3) Use De Moivre's Theorem to evaluate and express in polar form $(1-i)^{15}$

4) Use De Moivre's Theorem to evaluate and express in polar form $\left(1-\sqrt{3}\cdot i\right)^5$

5) Use De Moivre's Theorem to evaluate and express in polar form $(-2-2i)^4$

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6) Find all the third roots of $8i$ and express in polar form.

7) Find all the sixth roots of 27 and express in polar form.

8) Find all the fifth roots of $4 + 4i$ and express in polar form.

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