**10C Part 2 Trigonometric Identities**

1. Simplify the following expression:
2. $sin^{2}3θ+cos^{2}3θ$
3. $5-5sin^{2}θ$
4. $\frac{sin2θ}{\sqrt{1-sin^{2}2θ}}$
5. Prove that:

$$\frac{cos^{4}θ-sin^{4}θ}{cos^{2}θ}≡1-tan^{2}θ$$

1. Given that $p=3cosθ$ and that $q=2sinθ$, show that $4p^{2}+9q^{2}=36$