Answer on Question #43729 – Math – Trigonometry

prove that sin^3a + cos^3a/sina + cos a = 1-1/2 sin2a

Answer.

$$\frac{sin^3\alpha + cos^3\alpha}{sin\alpha + cos\alpha} = \frac{(sin\alpha + cos\alpha)(sin^2\alpha - sin\alpha cos\alpha + cos^2\alpha)}{sin\alpha + cos\alpha} = 1 - sin\alpha cos\alpha =$$

$$= 1 - \frac{1}{2}sin2\alpha.$$ Q.E.D.