- $\sin 2A$, $\cos 2A$, $\tan 2A$
- expressing all of them in terms of $\tan A$.
- $\sin 3A$, $\cos 3A$ and $\tan 3A$ in terms of $\sin A$, $\cos A$ and $\tan A$ respectively.
- Find trig ratios of 18°, 36°.
- $1 + \tan A \tan A/2 = \tan A \cot(A/2) - 1 = \sec A$
- $$\frac{\sec 8\theta - 1}{\sec 4\theta - 1} = \frac{\tan 8\theta}{\tan 2\theta}$$
- $4\sin^3\theta \cos 3\theta + 4\cos^3\theta \sin 3\theta = A \sin B\theta$

  find A and B. $(3, 4)$.
- $\cos\alpha + \cos\beta = p$

  $\sin\alpha + \sin\beta = q$

  Then get $\tan^2\left(\frac{\alpha+\beta}{2}\right)$ and $\tan^2\left(\frac{\alpha-\beta}{2}\right)$

  in terms of p and q.
- $\cos 20^\circ \times \cos 40^\circ \times \cos 80^\circ = 1/2$
- express $\cos 4A$ in terms of $\cos A$.
- $\sin\frac{A}{2} + \cos\frac{A}{2} = \pm\sqrt{1+\sin A}$

  $\sin\frac{A}{2} - \cos\frac{A}{2} = \pm\sqrt{1-\sin A}$

* $\cos^2\frac{\pi}{8} + \cos^2\frac{3\pi}{8} + \cos^2\frac{5\pi}{8} + \cos^2\frac{7\pi}{8} = 2$

* If α and β are the roots of

$a\cos\theta + b\sin\theta = c$

Prove that $\sin(\alpha+\beta) = \frac{2ab}{a^2+b^2}$