S.4 Add Maths Quiz 7(a)

Time allowed: 20 minutes

Total Mark: 13

1. Find the general solution of the equation $2\sin 2x = \cos 2x - \cos^2 x + 1$.
(*Give the answers correct to the nearest 0.1^o.*)

(5 marks)

2. (a) If $\cos(\theta - \phi) = k\cos(\theta + \phi)$, where $\cos\theta \neq 0$ and $\cos\phi \neq 0$, show that

$$\tan\theta\tan\phi = \frac{k-1}{k+1}.$$

(b) Using the result of (a), find the general solution of each of the following equations:

(i) $\cos(\theta - 20°) = 2\cos(\theta + 20°)$

(ii) $\cos(\theta - 40°) = 3\cos(\theta + 30°)$

(*Give the answers correct to the nearest 0.1^o.*)

(2 + 6 marks)

End of Quiz