

TRIGONOMETRY (Q 4 & 5, PAPER 2)

LESSON NO. 4: SINGLE AND COMPOUND ANGLES

2004

4 (a) A is an acute angle such that $\tan A = \frac{8}{15}$.

Without evaluating A , find

- (i) $\cos A$
- (ii) $\sin 2A$.

2003

5 (a) Find the value of $\sin 15^\circ$ in surd form.

5 (c) (i) Using the identity $\cos(A - B) = \cos A \cos B + \sin A \sin B$, or otherwise, prove:

$$\sin(A + B) = \sin A \cos B + \cos A \sin B.$$

(ii) Prove: $\sin(A + B) \sin(A - B) = (\sin A + \sin B)(\sin A - \sin B)$.

2002

5 (b) (ii) Prove that $\tan 22\frac{1}{2}^\circ = \sqrt{2} - 1$.

ANSWERS

2004 4 (a) (i) $\frac{15}{17}$ (ii) $\frac{240}{289}$

2003 5 (a) $\frac{\sqrt{3}-1}{2\sqrt{2}}$