TIIGONOMETRY (Q 5, PAPER 2)

LESSON NO. 7: COMPOUND ANGLES

2001

5 (a) $\sin\theta = \frac{3}{5}$ where $0^o < \theta < 90^o$.

Find, without using the Tables or a calculator, the value of

(i) $\cos\theta$

(ii) $\cos 2\theta$. [Note: $\cos 2\theta = \cos^2\theta - \sin^2\theta$.]

1997

5 (b) θ is an acute angle where $\tan\theta = \frac{5}{12}$.

Find, as a fraction, the value of

(i) $\cos\theta$

(ii) $\sin\theta$

(iii) $\cos 2\theta$. [Note: $\cos 2\theta = \cos(\theta + \theta)$.]

1996

5 (b) A and B are acute angles where $\sin A = \frac{3}{5}$ and $\cos B = \frac{5}{13}$.

Find, as fractions, the value of cos A and the value of sin B.

Find the value of sin(A + B), giving your answer as a single fraction.

ANSWERS

2001 5 (a) (i) $\frac{4}{5}$ (ii) $\frac{7}{25}$

1997 5 (b) (i) $\frac{12}{13}$ (ii) $\frac{5}{13}$ (iii) $\frac{119}{169}$

1996 5 (b) $\frac{4}{5}, \frac{12}{13}, \frac{63}{65}$