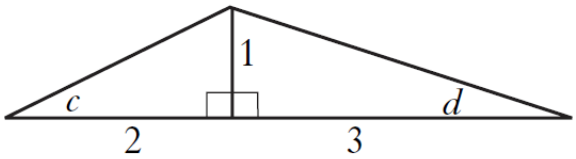
SPTA
Higher Homework
Compound Angle (A)

1. Given that P and Q are acute angles with $\sin P = {}^{3}/_{5}$ and $\tan Q = {}^{8}/_{15}$ show that $\cos(P - Q) = {}^{84}/_{85}$ **(4)**

2. The diagram shows two right angled triangles with angles c and d marked as shown.

(a) Find the exact value of $\sin (c + d)$ **(4)**



(b) (i) Find the exact value of $\sin 2c$

(ii) Show that $\cos 2d$ has the same exact value **(4)**

3. Solve $\sin 2x° + \cos x° = 0$ for $0 \leq x \leq 2\pi$ **(4)**

4. Solve the equation $\cos 2x° + 2\sin x° = \sin^2 x°$ in the interval $0 \leq x < 360$ **(4)**

5. Prove that $\cos (x + y) \cos (x - y) = \cos^2 y - \sin^2 x$ **(4)**