Q1. (a) Find an equivalent expression for $\text{Sin}(x + 90)^0$

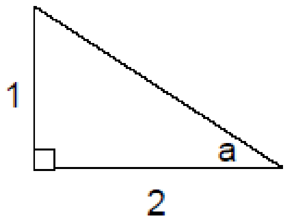
(b) Hence find the exact value of $\text{Sin}135^0$

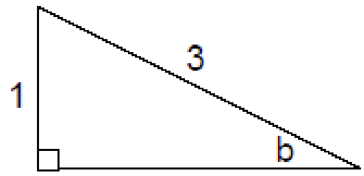
Q2. Given that $\text{Sin}A = \frac{5}{13}$ and $\text{Cos}B = \frac{4}{5}$ where A and B are acute angles. Express Sin(A + B) in the form $\frac{a}{b}$

Q3. Prove that Cos(A + B)CosB + Sin(A + B)SinB = CosA

Q4. Using the triangles opposite,

Show that $\text{Sin}(a - b) = \frac{2\sqrt{2}-2}{3\sqrt{5}}$





Q5. Find the value of $\text{Cos}80^0\text{Cos}40^0 - \text{Sin}80^0\text{Sin}40^0$

Q6. Solve the equation $\text{Cos}2x^0 - 3\text{Cos}x^0 + 2 = 0$ for $0 \le x \le 360$

Q7.

(a) Using the fact that $\frac{7\pi}{12} = \frac{\pi}{3} + \frac{\pi}{4}$, find the exact value of $\sin\left(\frac{7\pi}{12}\right)$.

(b) Show that $\sin(A + B) + \sin(A - B) = 2\sin A \cos B$.

(c) (i) Express $\frac{\pi}{12}$ in terms of $\frac{\pi}{3}$ and $\frac{\pi}{4}$.

(ii) Hence or otherwise find the exact value of $\sin\left(\frac{7\pi}{12}\right) + \sin\left(\frac{\pi}{12}\right)$.