- $\cos(A-B) = \cos A \cos B + \sin A \sin B$
- $\cos(A+B) = \cos A \cos B - \sin A \sin B$
- $\sin(A+B) = \sin A \cos B + \sin B \cos A$
- $\sin(A-B) = \sin A \cos B - \sin B \cos A$
- $\sin(30°) = \frac{1}{2}$ $\cos(30°) = \frac{\sqrt{3}}{2}$
- $\sin(45°) = \frac{\sqrt{2}}{2}$ $\cos(45°) = \frac{\sqrt{2}}{2}$
- $\sin(60°) = \frac{\sqrt{3}}{2}$ $\cos(60°) = \frac{1}{2}$

Problem 1. Note that $15° = 45° - 30°$

(a) Find $\sin(15°)$.

(b) Find $\cos(15°)$.

Problem 2. Suppose that $\sin(A) = \frac{4}{5}$ and $\sin(B) = \frac{3}{5}$.

(a) Find $\cos(A)$ and $\cos(B)$.

(b) Find $\cos(A-B)$ and $\cos(A+B)$.

(c) Find $\sin(A+B)$ and $\sin(A-B)$.

Problem 3. Suppose that $\cos(A) = \frac{4}{5}$ and $\cos(B) = \frac{1}{5}$.

(a) Find $\sin(A)$ and $\sin(B)$.

(b) Find $\cos(A - B)$ and $\cos(A + B)$.

(c) Find $\sin(A + B)$ and $\sin(A - B)$.

Problem 4. Suppose that $\sin(A) = \frac{5}{7}$ and $\sin(B) = \frac{2}{7}$.

(a) Find $\cos(A)$ and $\cos(B)$.

(b) Find $\cos(A - B)$ and $\cos(A + B)$.

(c) Find $\sin(A + B)$ and $\sin(A - B)$.