

Wave Equation

All solutions between 0 and 2π

1. Express $f(x) = 3\cos x - 2\sin x$ in the form $k\cos(x - \alpha)$.
Hence solve the equation $3\cos x - 2\sin x = 1$

2. Express $f(x) = 2\cos x + 4\sin x$ in the form $k\sin(x - \alpha)$.
Hence solve the equation $2\cos x + 4\sin x = 3$.

3. Express $f(x) = -5\cos x + 2\sin x$ in the form $k\sin(x + \alpha)$.
Solve the equation $-5\cos x + 2\sin x = 4$

4. Express $f(x) = 6\cos x - 3\sin x$ in the form $k\cos(x - \alpha)$.
Hence solve the equation $6\cos x - 3\sin x = 4$

5. Express $f(x) = \cos x - 3\sin x$ in the form $k\sin(x + \alpha)$.
Hence solve the equation $\cos x - 3\sin x = 2$