5 The function f is such that $f(x) = a - b\cos x$ for $0° \leqslant x \leqslant 360°$, where a and b are positive constants. The maximum value of $f(x)$ is 10 and the minimum value is -2.

    (i) Find the values of a and b. [3]

    (ii) Solve the equation $f(x) = 0$. [3]

    (iii) Sketch the graph of $y = f(x)$. [2]