4 (i) Prove the identity 
$$\frac{\sin x \tan x}{1 - \cos x} = 1 + \frac{1}{\cos x}$$
. [3]

(ii) Hence solve the equation 
$$\frac{\sin x \tan x}{1 - \cos x} + 2 = 0$$
, for  $0^{\circ} \le x \le 360^{\circ}$ . [3]