

7 (i) Show that the equation

$$2 \sin x \tan x = \cos x + 5$$

can be expressed in the form

$$3 \cos^2 x + 5 \cos x - 2 = 0. \quad [3]$$

(ii) Hence solve the equation

$$2 \sin 2\theta \tan 2\theta = \cos 2\theta + 5,$$

giving all values of θ between 0° and 180° , correct to 1 decimal place. [5]