

Daily Question – Pure Mathematics Day 6

Topic : Trigonometric Equations

Questions

(a) Show that

$$\cot^2 x - \operatorname{cosec} x - 11 = 0$$

may be expressed in the form $\operatorname{cosec}^2 x - \operatorname{cosec} x + k = 0$, where k is a constant.

(1)

(b) Hence solve for $0 \leq x < 360^\circ$

$$\cot^2 x - \operatorname{cosec} x - 11 = 0$$

Give each solution in degrees to one decimal place.

(Solutions based entirely on graphical or numerical methods are not acceptable.)

(5)

(Total for question = 6 marks)