The point P has coordinates $(4, k)$.

C is the centre of the circle with equation $(x-1)^2 + (y+2)^2 = 25$.

(a) Show that the distance between the points P and C is given by $\sqrt{k^2 + 4k + 13}$.　2

(b) Hence, or otherwise, find the range of values of k such that P lies outside the circle.　4

Answers:

(a)　Apply distance formula and obtain result. See marking instructions.

(b)　$k < -6, k > 2$ with, for example, a sketch or table of signs.