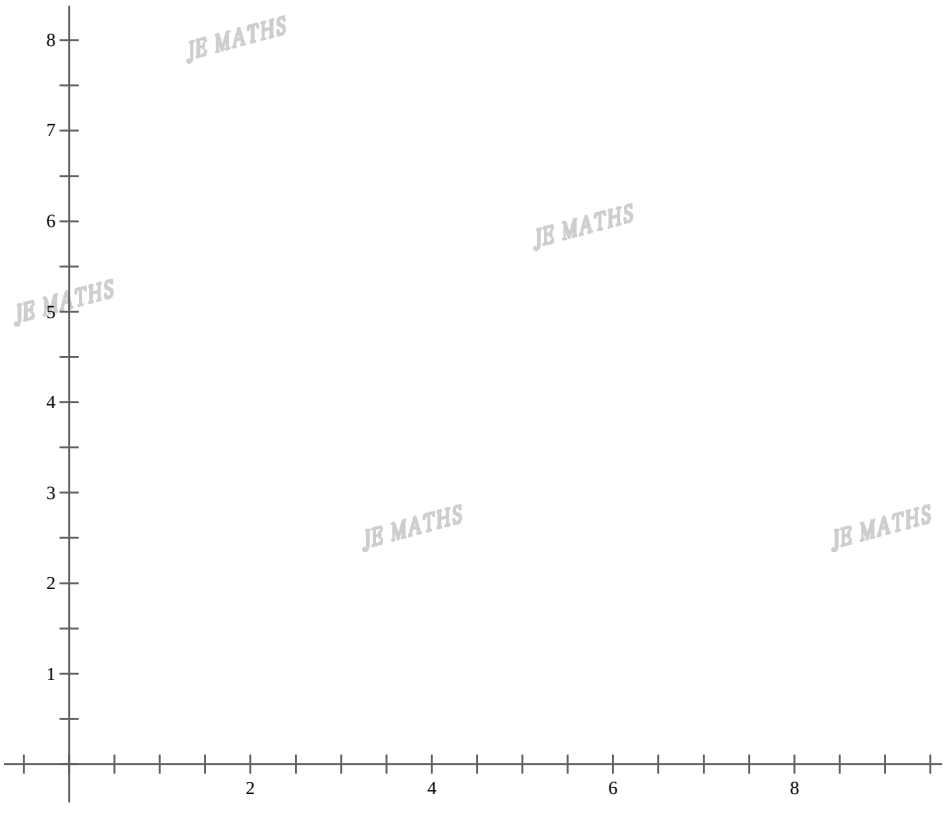
Development stage 1:

1. (a) Find the equation of a circle with centre C(4, 6) and radius 2.

(b) If A and B are the points of intersection where the line x + y = 8 meets with this circle. Find the coordinate of A and B.

(c) Hence, sketch both the line and the circle on the same number plane.



Development stage 1:

1. (a)

$(x-4)^2+(y-6)^2=4$

(b)

$x + y = 8$

$y = 8 - x$

Sub $y = 8 - x$ into the circle.

$(x-4)^2+(8-x-6)^2=4$

$(x-4)^2+(2-x)^2=4$

$x^2-8x+16+4-4x+x^2=4$

$2x^2 - 12x + 16 = 0$

$x^2 - 6x + 8 = 0$

$(x-2)(x-4) = 0$

$x = 2, y = 6$

$x = 4, y = 4$

ans: A = (2, 6) and B = (4, 4).

(c)