

(1)[3 points] Find the equation of the line through  $(-1, -2)$  and  $(4, 3)$  .

(2)[4 points] Find the equation of the line through  $(-1, -2)$  which is perpendicular to the line  $2x + 5y + 8 = 0$ .

(3)[4 points] Put the following equation of a circle into standard form and state the centre and radius:

$$x^2 + y^2 - 4x + 10y + 13 = 0 .$$

(4)[4 points] Find the  $x$  and  $y$  intercepts of the graph of  $f(x) = \frac{3}{2}\sqrt{4 - x^2}$  . (Do not graph.)