

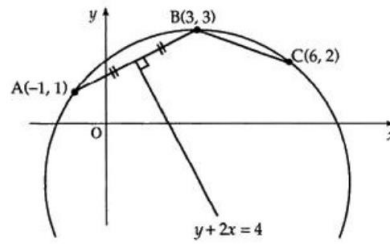



-  1. Find the equation of the circle which has P(-2, -1) and Q(4, 5) as end points of a diameter.

-  2. Find the range of values of k for which the line $x - y = k$ does not intersect the circle with equation $x^2 + y^2 = 18$.

3. In the diagram, A is the point $(-1, 1)$, B is $(3, 3)$ and C is $(6, 2)$.
The perpendicular bisector of AB has equation $y + 2x = 4$.



- (a) Find the equation of the perpendicular bisector of BC.
(b) Find the equation of the circle which passes through A, B and C.

-  4. The line $y = -1$ is a tangent to a circle which passes through $(0,0)$ and $(6,0)$. Find the equation of this circle.

Answers to Higher Homework 2 - Circles

1. $(x-1)^2 + (y-2)^2 = 18$

2. $k < -6, k > 6$

3(a) $y = 3x - 11$

3(b) $(x-3)^2 + (y+2)^2 = 25$

4. $(x-3)^2 + (y-4)^2 = 25$