

Section 2: Circles

Section test

- A circle has the equation $x^2 + y^2 = 16$.
What is the radius of this circle?
- A circle has the equation $(x+3)^2 + (y-1)^2 = 4$.
Which of the following statements is false? Choose as many as apply.
 - The y coordinate of the centre is -1
 - The radius of the circle is 2
 - The x coordinate of the centre is -3
 - The point $(-3, -1)$ lies on the circle
- The equation of a circle with centre $(2, 1)$ and radius 6 is
 - $(x+2)^2 + (y+1)^2 = 36$
 - $(x+2)^2 + (y+1)^2 = 6$
 - $(x-2)^2 + (y-1)^2 = 6$
 - $(x-2)^2 + (y-1)^2 = 36$
- The equation of a circle with radius 5 and centre $(3, -2)$ can be written as
 - $x^2 + y^2 - 3x + 2y = 25$
 - $x^2 + y^2 + 3x - 2y = 25$
 - $x^2 + y^2 - 6x + 4y = 12$
 - $x^2 + y^2 + 6x - 4y = 12$
- A circle has equation $x^2 + y^2 - 2x + 6y = 10$. Find the centre and radius of the circle.
- O is the centre of a circle. The point $P(2, 4)$ lies on the circumference of the circle. What is the gradient of the tangent at P ?
- The equation of a line is $y = x$. The equation of a circle is $x^2 + y^2 = 8$.
Which one of the following statements is true?
 - The line does not meet the circle
 - The line cuts the circle at two points
 - The line touches the circle
- AB is the diameter of a circle centre O . P is a point on the circumference.
Which one of the following statements is true?
 - When P is equidistant from A and B then OP is parallel to AB
 - Angle APB varies as the position of P varies
 - $AP^2 + PB^2 = AB^2$
 - Triangle APB is acute angled
- The line $y = 2x + 3$ is a tangent to a circle with centre $(2, -3)$.
The radius of the circle is
 - $\sqrt{20}$
 - $\sqrt{40}$
 - 20
 - 40
- The line $y = 2x$ does not meet the circle $(x-2)^2 + (y-1)^2 = d$.
Find the range of possible values for d .