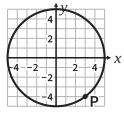


Equation of a Circle *ramp up*

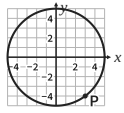
ANSWERS

a Find the circumference of $x^2 + y^2 = 49$ in terms of π 14π a circumference from the equation	b Find where $y = -x$ meets $x^2 + y^2 = 8$ $(2, -2), (-2, 2)$ a centre line with a negative gradient	c Find the equation of the tangent to $x^2 + y^2 = 16$ at $(-4, 0)$ $x = -4$ a vertical tangent	d Find the tangent at P  $3x - 4y = 25$ a tangent from a drawn circle
e A tangent from $P(6, 8)$ touches $x^2 + y^2 = 36$ at T. Find the length PT. 8 a tangent length by Pythagoras	f Find the area between the axes and the tangent to $x^2 + y^2 = 8$ at $(2, 2)$ 8 a tangent and the axes: an area	g $y = x + 2$ meets $x^2 + y^2 = 10$ at A and B. Find the exact length AB. $4\sqrt{2}$ the exact length of a chord	h Show that $y = x + 4$ does not meet $x^2 + y^2 = 4$ $b^2 - 4ac = -32 < 0$ no meeting: the discriminant
i $A(-5, 0)$, $B(5, 0)$ and $P(3, 4)$ are on $x^2 + y^2 = 25$. Show that angle APB is 90°. $\frac{1}{2} \times -2 = -1$ the angle in a semicircle by gradients	j Find the two points on $x^2 + y^2 = 25$ where the tangent has gradient 0.75 $(-3, 4), (3, -4)$ working back to the point of contact	k Find where the tangents to $x^2 + y^2 = 25$ at $(3, 4)$ and $(3, -4)$ meet $(\frac{25}{3}, 0)$ where two tangents meet	l $y = mx + 10$ is a tangent to $x^2 + y^2 = 20$. Find the possible values of m. $m = 2, m = -2$ a tangent: find the gradient m

The Maths Habit

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