Higher Maths question bank :: Paper 1

Formula sheet

Circles

Equation $x^2 + y^2 + 2gx + 2fy + c = 0$ has centre $(-g, -f)$ and radius $\sqrt{g^2 + f^2 - c}$.

Equation $(x - a)^2 + (y - b)^2 = r^2$ has centre (a, b) and radius r.

Trig identities

$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$$

$$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$$

$$\sin 2A = 2 \sin A \cos A$$

$$\cos 2A = \cos^2 A - \sin^2 A$$
$$= 2 \cos^2 A - 1$$
$$= 1 - 2 \sin^2 A$$

Standard derivatives & integrals

$f(x)$	$f'(x)$	$\int f(x)dx$
$\sin(ax)$	$a \cos(ax)$	$-\dfrac{1}{a}\cos(ax) + c$
$\cos(ax)$	$-a \sin(ax)$	$\dfrac{1}{a}\sin(ax) + c$