Circles and Lines

The equation of a circle is
$(x+2)^2+(y-4)^2=13$

ATM

Circles and Lines

The equation of a circle is
$x^2+y^2+4x-8y+7=0$

ATM

Circles and Lines

A circle has centre
$(-2, 4)$ and radius $\sqrt{13}$

ATM

Circles and Lines

The line joining the points
$(0, 1)$ and $(-4, 7)$
is a diameter of the circle

ATM

Circles and Lines

The lines $y=x+6$
and $y+2x=0$ cut at
the centre of the circle
The point $(0, 7)$ lies on the circle

ATM

Circles and Lines

The equation of the tangent to the
circle at $(1, 6)$ is $2y+3x=15$
The point $(-5, 2)$ lies on the circle

ATM

Circles and Lines

The points $(0, 1)$, $(1, 2)$ and
$(-5, 6)$ all lie on the circle

ATM

Circles and Lines

ATM

Circles and Lines

The equation of the normal to the
circle at $(0, 1)$ is $2y+3x=2$
The equation of the normal to the
circle at $(-4, 1)$ is $2y=3x+14$

ATM