The Circle 7: Tangents to a circle at a point

Prerequisite Knowledge:
The Line
The circle 1-6

Questions from GKTuition Tutorials:

Example 1:

Find the equation of the tangent to the circle:
$x^2 + y^2 - 5x + y - 2 = 0$
at the point $(4, -3)$

Example 2:

Find the equations of the tangents to the circle:
$x^2 + y^2 - 2x - 4y - 4 = 0$,
that are parallel to the line $3x - 4y + 12 = 0$

Question 1:

Find the equation of the tangent to the circle:
$x^2 + y^2 - 4x - 5y + 4 = 0$, at the point $(2, 5)$.

Question 2:

Find the equations of the tangents to the circle:
$(x - 1)^2 + (y + 2)^2 = 100$ that are parallel to the line $8x = 15y$

Questions from GKTuition Tutorial:

Example 1:

Find the equation of the tangent to the circle:
$x^2 + (y - 7)^2 = 26$ at the point $(1, 2)$

Example 2:

Find the equations of the tangents to the circle:
$x^2 + y^2 - 4x - 14y + 13 = 0$,
that are parallel to the line $2x + 3y - 56 = 0$

Question 1:

Find the equation of the tangent to the circle:
$2x^2 + 2y^2 + 12x + 8y - 8 = 0$ at the point $(1, -1)$

Question 2:

Find the equations of the tangents to the circle:
$x^2 + y^2 - 2x - 12y + 3 = 0$, that are parallel to the line $5x + 3y = 100$