

- [illegible]

Solutions

1a.

Centre: $(\frac{-2+8}{2}, \frac{11+1}{2})$ $= (3, 6)$	M1
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1b.

$r^2 = (8-3)^2 + (6-1)^2 = 50$	M1
Equation of C is, $(x-3)^2 + (y-6)^2 = 50$	M1 M1

1c.

When $x = 10, y = 7$ $(10-3)^2 + (7-6)^2 = 7^2 + 1^2 = 50$	M1
Therefore $(10, 7)$ lies on C .	M1

1d.

Gradient of $MP = \frac{7-6}{10-3} = \frac{1}{7}$	M1
Gradient of tangent $= -7$	M1
Equation of tangent is: $y - 7 = -7(x - 10)$ $y - 7 = -7x + 70$	M1
$y = -7x + 77$	M1

