4 Solve the equation $\frac{2}{\log_x 10} - \lg(x+4) = \lg 2$ for $x > 0$. [5]

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5 Solutions by accurate drawing will not be accepted.

A circle, C, has equation $(x-5)^2+(y-12)^2=100$.

(a) Find the equation of the tangent to C at the point (11, 4).
Give your answer in the form $ax+by=c$, where a, b and c are integers. [4]

(b) Show that C and the circle with equation $x^2+y^2=4$ do not intersect. [2]

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