8 (a)   Find the equation of the tangent to the curve $y = e^{4x}$ at the point (a, e^{4a}).

[3 marks]

8 (b)   Find the value of a for which this tangent passes through the origin.

[2 marks]

8 (c)   Hence, find the set of values of m for which the equation

$$e^{4x} = mx$$

has no real solutions.

[3 marks]