3 **(a)** Write $3+2\lg a-\frac{1}{2}\lg\left(4b^2\right)$, where a and b are both positive, as a single logarithm to base 10. Give your answer in its simplest form. [3]

(b) Given that $2\log_c 3 = 7+4\log_3 c$, find the possible values of the positive constant c, giving your answers in exact form. [5]