1. (a) Given that
$$2\log(3 - x) - \log(21 - 2x) = 0$$

   show that

   $$x^2 - 4x - 12 = 0$$

   (3)

   (b) (i) Write down the roots of $x^2 - 4x - 12 = 0$

   (ii) Which of these two roots is **not** a solution of

   $$2\log(3 - x) - \log(21 - 2x) = 0$$

   giving a reason for your answer.

   (2)