3 (a) Write down the value of $\log_3 9$

(1)

(b) Solve the equation $\log_3 9t = \log_9\left(\frac{12}{t}\right)^2 + 2$ where $t > 0$

Give your answer in the form $a\sqrt{b}$ where a and b are prime numbers.

(6)

Question 3 continued

(Total for Question 3 is 7 marks)