

Higher – E&F–HW 4

1. Evaluate $\log_5 2 + \log_5 50 - \log_5 4$

2. The size of the human population, N , can be modelled using the equation $N = N_0 e^{rt}$ where N_0 is the population in 2006, t is the time in years since 2006, and r is the annual rate of increase in the population.
 - (a) In 2006 the population of the United Kingdom was approximately 61 million, with an annual rate of increase of 1.6%. Assuming this growth rate remains constant, what would be the population in 2020?

 - (b) In 2006 the population of Scotland was approximately 5.1 million, with an annual rate of increase of 0.43%. Assuming this growth rate remains constant, how long would it take for Scotland's population to double in size?