

## Section 2: Natural logarithms and exponentials

### Crucial points

- 1. Learn and be confident using the laws of indices and logarithms**  
Make sure that you know the rules of logarithms and of indices, so that you can manipulate expressions involving exponentials and logarithms confidently.
- 2. Make sure that you remember that the exponential and logarithm functions are the inverses of each other**  
Remember that the exponential function and the natural logarithm function are inverse functions; so you can “undo” an exponential function by using natural logarithms, and you can “undo” a natural logarithm by using exponentials.
- 3. Be careful with signs**  
In an exponential decay model, be careful not to lose the minus sign. Remember that the logarithm of a number less than 1 is negative, and you can rewrite e.g.  $\ln \frac{1}{2}$  as  $-\ln 2$ .