Section 2: Indices

Crucial points

1. **Make sure you use the law of indices in appropriate situations**
   Remember you cannot apply the laws of indices to the sum or difference of two expressions involving indices (although you may be able to simplify in another way.)

   ✗ ***Wrong*** $a^2 + a^5 = a^7$ ✗

   ✓ ***Right*** $a^2 + a^5 = a^2(1 + a^3)$ ✓

2. **Look at the base**
   Make sure that you only apply the first two laws of indices to expressions with the same base

   ✗ ***Wrong*** $2^2 \times 3^5 = 6^7$ ✗

   ✓ ***Right*** $2^2 \times 2^5 = 2^7$ ✓

3. **Remember the value of a^0**
   a^0 is always 1, for any value of a

4. **When evaluating expressions, don't make it harder than necessary**
   When working out an expression like $4^{\frac{5}{2}}$, which involves taking the square root and raising to the power 5, make it easy by working out the square root first. If you work out 4 to the power of 5 first (without a calculator since C1 is a non-calculator paper), then you will waste a lot of time and probably be unable to then find the square root.

