Edexcel A level Maths A model for friction

Section 1: Friction

Crucial points

1. **Always draw a clear diagram**
   Make sure that you include all forces. These may include weights, normal reactions, tensions in strings etc, resistance forces. Write in any angles. Remember that friction always opposes the tendency to sliding motion.

2. **Remember the difference between mass and weight**
   On a force diagram, you need to use weight which is equal to mg and is measured in Newtons. Mass is measured in kilograms. Make sure that you read questions carefully and note whether you are told the mass or the weight.

3. **Make sure that you can resolve forces confidently**
   You should have mastered this technique in section 1. Resolving forces is an essential skill in this section and in most areas of Mechanics, so it is important that you can do this confidently.

4. **Use the relationship $F = \mu R$ in appropriate situations**
   In most examples you will meet, sliding is either occurring or about to occur, so that friction is limiting and $F = \mu R$ can be used. However, if there is no motion, and you are not told that sliding is about to occur, you cannot use $F = \mu R$. In cases where no motion is occurring, $F \leq \mu R$.