**The Quotient Rule**

**Just as we use the ‘product rule’ to differentiate a ‘product’, we use the ‘quotient rule’ to differentiate a ‘quotient’ (i.e. division).**

**The quotient rule:**

**If** $y=\frac{u}{v}$ **then** $\frac{dy}{dx}=\frac{v\frac{du}{dx}-u\frac{dv}{dx}}{v^{2}}$

**Memorisation Tips**: “Bottoms first!” The denominator ($v$) is the first term seen in the new denominator and numerator. The denominator gets squared. Note that in the numerator, we have $-$ instead of the $+$ seen in the Product Rule.

**1. If** $y=\frac{x}{2x+5}$**, find** $\frac{dy}{dx}$

**2. Find the stationary point of** $y=\frac{\sin(x)}{e^{2x}}$ **,** $0<x<π$

**Test Your Understanding**

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