

Section 3: Extending the rule

Crucial points

1. **Be careful when differentiating negative and fractional powers**
Make sure that you subtract 1 from the index correctly, especially when dealing with negative numbers.
2. **Make sure that you write products and quotients in an appropriate form when differentiating**

e.g. $(x-1)\sqrt{x}$ must be written as $x^{\frac{3}{2}} - x^{\frac{1}{2}}$ before differentiating

$\frac{1-x}{x^2}$ must be written as $\frac{1}{x^2} - \frac{1}{x}$ before differentiating