

***Factsheet:* Laws of Indices**

The following table gives the laws of indices. The study guide: [Laws of Indices](#) has advice on how to use these laws.

$$1) \quad x^1 = x$$

$$2) \quad x^0 = 1$$

$$3) \quad (x^a)^b = x^{ab}$$

$$4) \quad x^a x^b = x^{a+b}$$

$$5) \quad x^{-a} = \frac{1}{x^a}$$

$$6) \quad \frac{x^a}{x^b} = x^{a-b}$$

$$7) \quad (xy)^a = x^a y^a$$

$$8) \quad \left(\frac{x}{y}\right)^a = \frac{x^a}{y^a}$$

$$9) \quad \sqrt[a]{x} = x^{1/a}$$

$$10) \quad (\sqrt[a]{x})^b = \sqrt[a]{x^b} = x^{b/a}$$



Want to know more?

If you have any further questions about this topic you can make an appointment to see a [Learning Enhancement Tutor](#) in the [Student Support Service](#), as well as speaking to your lecturer or adviser.

- 📞 Call: 01603 592761
- 💻 Ask: ask.let@uea.ac.uk
- 🖱️ Click: <https://portal.uea.ac.uk/student-support-service/learning-enhancement>

There are many other resources to help you with your studies on our [website](#).
For this topic there is a [webcast](#).

Your comments or suggestions about our resources are very welcome.

	<p>Scan the QR-code with a smartphone app for a webcast of this factsheet.</p>	
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