# Diagnostic Test for Exponents/Indices/Powers

**Q. What is the purpose of this task?**

**A.** The purpose of the task is to help students identify and then correct misconceptions or weaknesses in their knowledge of Exponents/Indices/Powers. Furthermore, it is enabling students to communicate verbally and mathematically why particular answer(s) are true or false.

**Q. What is in the task and who is it aimed at?**

**A**. The task has 3 components:

1. **Diagnostic Test for Indices with questions graded at level A,B,C**

* Level A is to assess student understanding of the Concept of the Exponent/Index/Power

(All Levels but questions for JCFL/JCOL/LCFL with exponents∈N only)

* Level B is to assess student understanding of the Rules of the Exponent/Index/Power

(All levels but questions for JCFL/JCOL/LCFL with exponents∈N only)

* Level C is to assess student understanding of Rational Exponents/Indices/Powers

(JCHL and LCOL/LCHL only)

1. **Indices Companion Task with 2 sets of questions for each level A,B,C**

Once a level has been identified by the teacher/student, a companion task is to be completed:

* **Page 1** contains 6 questions with answers and justifications. There is a thick dotted line for the student to fold back or cut. Students should try the questions first and then check their work against the answer sheet.
* **Page 2** contains 6 questions without answers and justifications. This is to help the student reinforce the learning.

1. **Assessment for Learning Tool**

This assessment tool is called the Frayer Model and is used to assess learning by asking students to write a definition, identify characteristics and give examples and non-examples of a concept.