

IRRATIONAL NUMBERS - SUMMARY

For Year Level 8

This material relates to the following Australian Curriculum (Mathematics)

Outcome/s:

Investigate the concept of irrational numbers, including π (ACMNA186).

Rationale for Use

It is expected that students will have access to an array of practice material in the form of text books or school prepared exercises. The purpose of the AMSI materials is to support the development of **understanding** and **reasoning** about the concepts involved. They complement and enhance the teacher instruction elements of normal classroom instruction.

Explanation (What this includes):

- Investigate 'irrational' numbers, such as π and $\sqrt{2}$
- Describe the properties of irrational numbers

Resources:

1. Click on the link on 'Calculate' to the **AMSI Interactive 'Investigating Irrational Numbers'** and work through the unit. Test your understanding with the quiz at the end!

2. **Read and explore** the AMSI Schools **Supporting Australian Mathematics (SAM) Project module** 'Investigating irrational numbers, including Pi' - http://www.amsi.org.au/ESA_middle_years/Year8/Year8_md/Year8_1c.html.

A good addition to this content is the '**Maths Is Fun**' website's explanation of irrational numbers: <https://www.mathsisfun.com/irrational-numbers.html>

Read through these introductions and then work through each of the 'Student Resources' tabs in the SAM module. A short self-quiz is included throughout this unit – have a go!

3. **Watch some handy online videoclips:**

- MyWhyU – Rational Numbers: https://www.youtube.com/watch?v=q_wstDWjnKQ; then
- Khan Academy – Introduction to Rational and Irrational Numbers: <https://www.youtube.com/watch?v=cLP7INqs3JM>
- Study.com – Properties of Rational and Irrational Numbers: <https://study.com/academy/lesson/properties-of-rational-irrational-numbers.html>

4. Play some games and explore in more depth! Here are a couple of ideas to have fun with on the 'N-Rich', 'MathsFun' and The Actuarial Foundation mathematics websites, as well as a link to the 'plus' magazine's page featuring articles and information on rational and irrational numbers:

- 'Irrational Arithmagons' (hard!) - <https://nrich.maths.org/7448>
- 'It's OK to be Irrational!' - https://www.scholastic.com/content/dam/teachers/sponsored-content/Actuarial/17-18/Actuarial10_Number_Wkst_3.pdf
- 'Find an Approximate Value for Pi' - <https://www.mathsisfun.com/activity/pi-approximation.html>
- Plus Magazine Teacher Package: Rational and Irrational Numbers (teachers, this page may be of interest to you, and for those students keen on exploring the mysteries of irrational numbers in more depth!) - <https://plus.maths.org/content/teacher-package-rational-and-irrational-numbers>