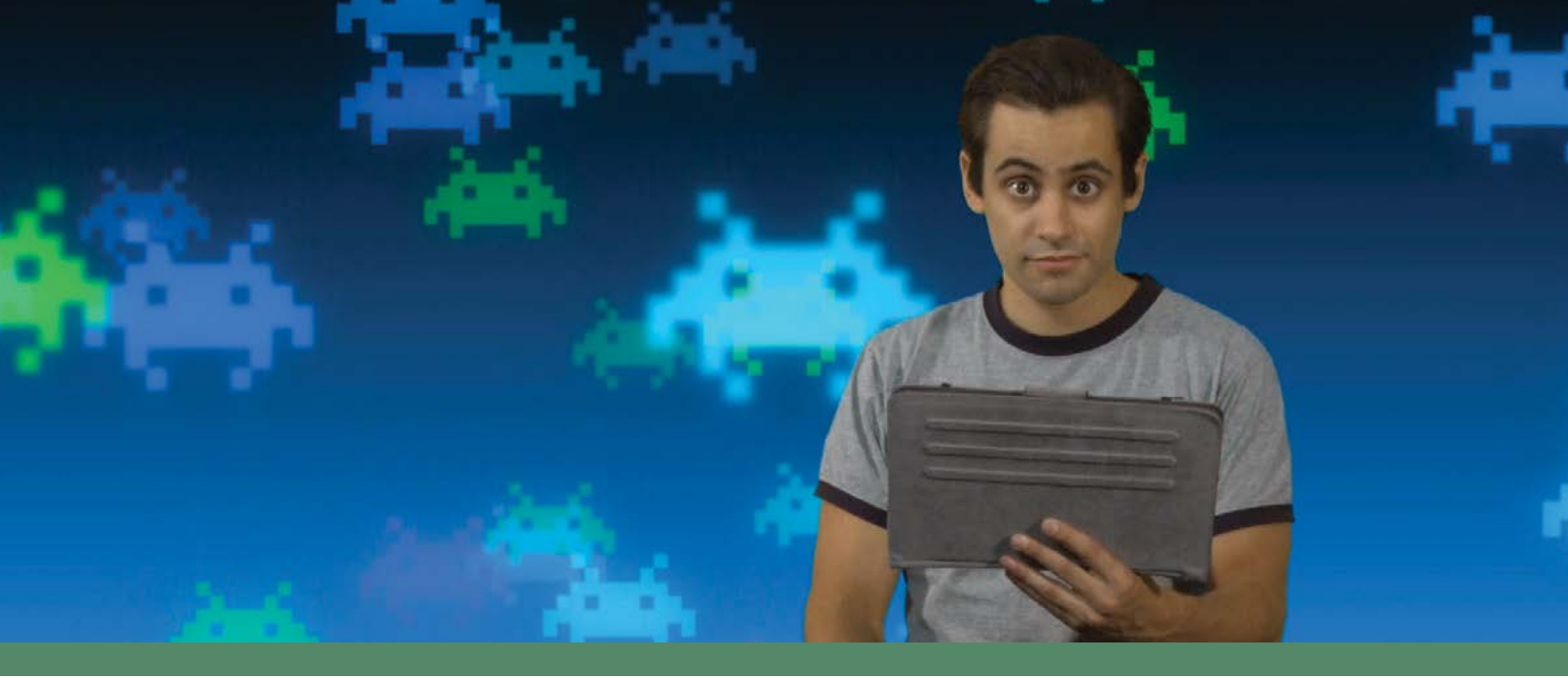
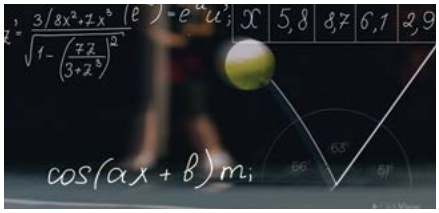


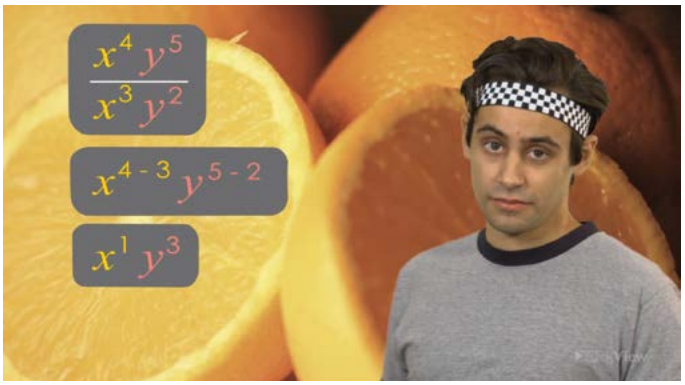
Mathematics

Stills from our new mathematics titles



Algebraic Variables and Index Laws

This clip defines the mathematical concepts of constants and variables before going on to apply index laws to variables using positive integer indices and the zero index. Simplifying equations by adding, subtracting, multiplying and dividing indices are demonstrated. Ideal for introducing or reinforcing concepts.



2014 | 4 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses

Exponents and Index Laws

In this clip, two situations are used to apply index laws to numerical expressions with integer indices. In the first situation, the narrator needs to determine how many pallets of water bottles he and his friends will need for a 16 day yacht trip. The second situation involves calculating the rate at which light sensitive bacteria populations increase or decrease depending on changes to their environment. Ideal for applying mathematical concepts to real world situations.

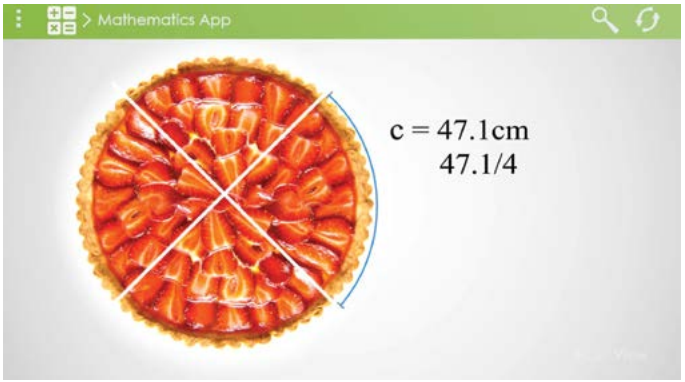
2014 | 6 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses

Irrational Numbers: Pi and Pies

The clip explains how the irrational number Pi is derived and provides an example of its practical application in calculating the area of different sized pie tins. It explores: how Pi is derived by finding the relationship between a circle's diameter or radius and its circumference; and the relationship between a circle's radius and its area. Ideal for reinforcing concepts.



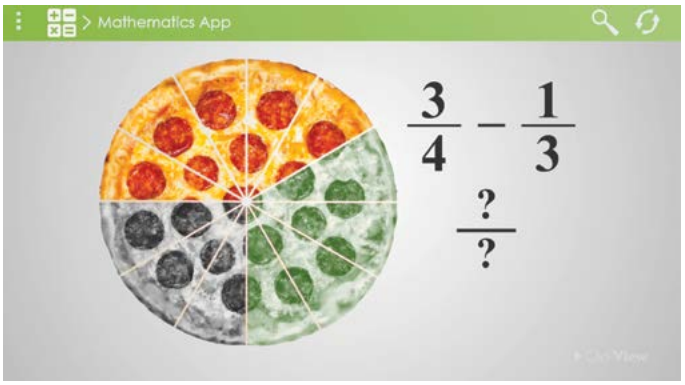
2014 | 5 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses

Operations with Algebraic Fractions

This clip applies the four operations to simple algebraic fractions with numerical denominators. It begins by using the example of pizza to add and subtract fractions and determine lowest common denominators. Pronumerals are then incorporated into examples, which increase in difficulty to multiplying and dividing fractions. Ideal for reinforcing concepts.



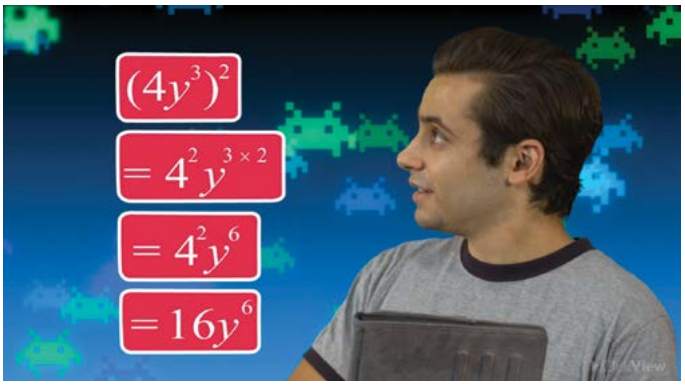
2014 | 5 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses

Simplifying Algebraic Products and Quotients

Follow along as our narrator plays a video game that requires him to simplify algebraic products and quotients using index laws. It's a race against the clock as the questions become increasingly difficult and require him to work with negative numbers and indices in order to complete the level. Ideal for reinforcing concepts.



2014 | 4 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses

Substituting Values in Formulae

This clip demonstrates the importance of algebra and mathematical formulae in solving everyday problems. Working through a series of real life examples, our narrator substitutes values into formulas to determine the information he requires. Follow along as he calculates speed, distance and time measurements, the volume of a cylinder, and the cost of electricity. Ideal for applying mathematical concepts to real world situations.

2014 | 5 min | Australia | CC | AR | Autumn 14

Additional resources

- Worksheet
- Suggested Student Responses
