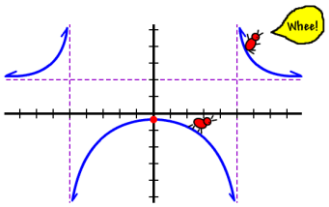
Week 02
Term 03
2012

Learning Brief

SM2
Trigonometry and Derivatives

Goals



Unit Goals

- use algebraic methods and graphing software to identify the key features of polynomial, rational and trigonometric functions;
- develop mathematical models using the above functions;

This Week

- Rational Functions, Asymptotic Behaviour, Limiting Behaviour

Theoretical Components

Resources:
PDF file on Rational Functions Pages 1-7
YouTube: links in the PDF file

Knowledge Checklist:

- What is a rational function?
- Vertical asymptotes?
- Horizontal asymptotes?
- Oblique asymptotes?
- Sketching
- CAS work
- Idea of functions approaching values at extrema (as x approaches infinity), or approaching asymptotes - limiting behaviour

Practical Components

Exercise 2.1 from PDF notes

Investigation

Get the investigation off the Wk2 Investigation PDF file, a series of 7 questions constructing your own rational function model.

Quiz

Quiz from Week 1 is still available; make sure you have completed it.

Forum

The forum this week is designed to encourage discussion and reflection on another's work.

1. You are to complete the investigation for this week, and then post your rational model into the forum. Make sure you comment on any assumptions you used in developing your model.
2. Comment on someone else's rational model, things you could comment on could be how is it different or the same to yours? Did they have a better approach than you? Do you have a question about their model -if so ask it. Do you agree with their model? Does it make sense etc.