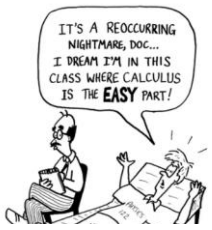
Week 10
Term 3
2015

Learning Brief

SM2
Trigonometry and Derivatives

Goals



Unit Goals

- develop an intuitive understanding of limits and differentiation from first principles
- differentiate polynomial and simple rational functions;

This Week

- differentiating with the chain rule and the product rule

Theoretical Components

Resources:
Pdf *Week 10 Notes and Exercises*
Cambridge 3 Unit Chapter 7
YouTube Videos: In *Week 10 notes and Exercises*

Knowledge Checklist:

- power rule
- chain rule
- product rule
- finding gradient functions by sketching
- finding gradient functions by using the rule
- finding gradient functions using your CAS

Practical Components

Cambridge Yr 11 3 unit:
Ex 7D Q2 all, Q3 all, Q4 all, Q12 a) b), Q12 a) b), Q13 a) e) g) h) j)
Ex 7E Q1 a) d) f) h) k), Q2 c) g), Q3 see P 256 a) d), Q4 a) e) j), Q5 a), Q8 a), Q10 a) g) h), Q15
Ex 7F Q1 a) c), Q2 a) b) e) f), Q4 a), Q6 a), Q7 a

Investigation

1. Look at the section called **An Alternative Notation** on Page 242 in *Cambridge*. Use this notation to find the derivative of $\sqrt{4-x}$. Then use the Chain Rule to find the derivative and compare the results.

2. Investigate the rule for differentiating a product $y = uvw$ where u, v and w are functions of x. Hence find the derivative of $y = x^5(x-1)^4(x-2)^3$ and find the values of x where the tangent is horizontal.

QFO

Quiz/Forum/Other

None this week.