**Week**

**Term**

**2020**

13/1420

2

**Learning Brief MM3:**

**Integrals**

By the end of this week, you should be able to:

• Understand the use of areas of rectangles (and other shapes) to

 approximate the area under a given curve between defined intervals

• Understand the use of sigma notation and limits to approximate area

 under a curve

• Find an exact area under a given curve using definite integrals

Goals



Theoretical Components

Practical Components

JacPlus eBook *Year 12 Maths Quest Methods* (dark blue book) Chapter 9

Read and view worked examples 18 to 28

Watch these YouTube videos:

Approximating area under a curve using rectangles:

<http://www.rootmath.org/calculus/area-intro>

Exact area under the curve using definite

integral:

<http://www.youtube.com/watch?v=ODwkTt0RMDg&feature=relmfu>

<https://www.youtube.com/watch?v=GtCYrxxTjH4>

<https://www.khanacademy.org/math/ap-calculus-ab/fundamental-theorem-of-calculus-ab/fundamental-theorem-of-calculus-tut-ab/v/fundamental-theorem-of-calculus>

Please read and make notes. Complete the “Question” section after each lesson.

Lesson 1: <https://mathspace.co/textbooks/syllabuses/Syllabus-844/topics/Topic-18526/subtopics/Subtopic-251354/?activeTab=theory>

Lesson 2:

<https://mathspace.co/textbooks/syllabuses/Syllabus-844/topics/Topic-18526/subtopics/Subtopic-251355/?activeTab=theory>

Use your CAS to integrate functions and to find definite integrals

Investigation

Complete the Quiz on mathspace

QFO

Quiz/Forum/Other

[Investigation Quiz](https://mathspace.co/student/tasks/TopicCustomTask-325321/)