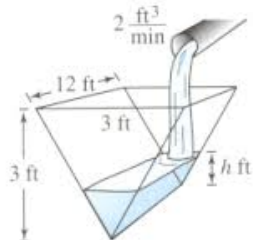


Goals



By the end of this unit, students:

- understand the concepts and techniques in applications of calculus and statistical inference
- apply reasoning skills and solve problems in applications of calculus and statistical inference
- communicate their arguments and strategies when solving problems
- construct proofs of results
- interpret mathematical and statistical information and ascertain the reasonableness of their solutions to problems.

This week:

- AST
- Exam

Theoretical Components

Term 3 Exam Checklist:

- ✓ Integration techniques:
 - ✓ Trig Substitution
 - ✓ U substitution
 - ✓ Inverse trig
 - ✓ Partial fraction decomposition
 - ✓ Integration by parts
- ✓ Area between curves
- ✓ Volumes of solids of revolution:
 - ✓ Disc Method
 - ✓ Washer Method
 - ✓ Shell Method

JUST

$$\int_{WK01}^{WK08} du$$

IT

Practical Components

Refer to revision materials:

Classroom/ABOUT/Resources/S2/Term3/Test1

Prepare your summary notes (on the back of this formula sheet):

https://www.hawkermaths.com/uploads/7/7/3/8/77386549/6._calculus_integrals.pdf

Investigation

If I throw a large stone into Lake G, then a ripple will emanate from the point of impact of the stone with the water's surface.

As the ripple begins to spread outward, the radius of the ripple grows at 12 cm per second.

How large will the circumference of the ripple be after 8 seconds?

20 marks

Q/F/O
Quiz/Forum/Other

Different integration techniques: <https://urlzs.com/qNESr>