***Solution*** ***Section* 2.4 – Integration of Rational Functions by Partial Fractions**

***Exercise***

Evaluate 

***Solution***











***Exercise***

Evaluate 

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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***Exercise***

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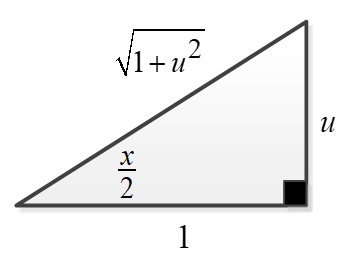








***Exercise***

Evaluate 

***Solution***



















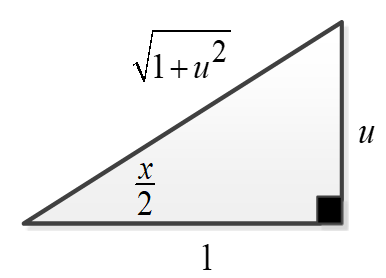


***Exercise***

Evaluate 

***Solution***











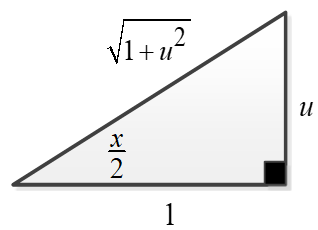




***Exercise***

Evaluate 

***Solution***















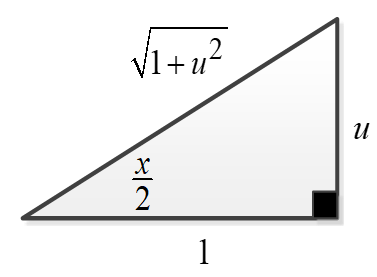






***Exercise***

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 ***Power Rule***



 ***Product Rule***



***Exercise***

Evaluate 

***Solution***





















***Exercise***

Evaluate 

***Solution***



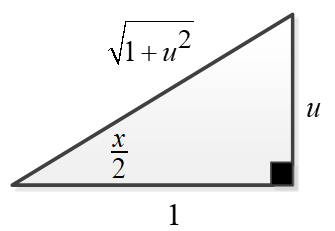
































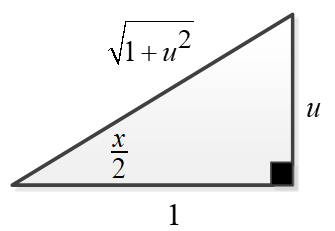




***Exercise***

Evaluate 

***Solution***











































***Exercise***

Find the volume of the solid generated by the revolving the shaded region about *x*-axis

***Solution***





























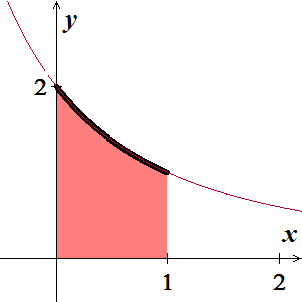




***Exercise***

Find the area of the region bounded by the graphs of 

***Solution***





















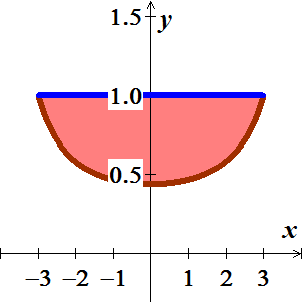
***Exercise***

Find the area of the region bounded by the graphs of 

***Solution***















***Exercise***

The region in the first quadrant that is enclosed by the *x*-axis, the curve  , and the lines  and  is revolved about the *x*-axis to generate a solid. Find the volume of the solid.

***Solution***

























***Exercise***

Find the length of the graph of the function 

***Solution***





































***Exercise***

Consider the region bounded by the graphs .

1. Find the volume of the solid generated by revolving the region about the 
2. Find the centroid of the region.

***Solution***

1. 

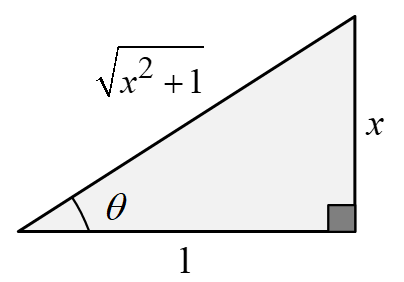








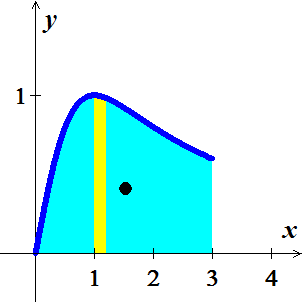










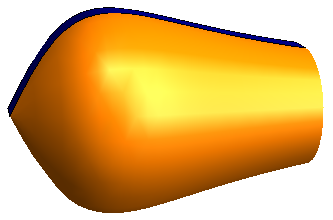
1. 























***Exercise***

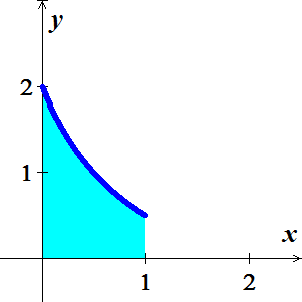
Consider the region bounded by the graph .

Find the volume of the solid generated by revolving this region about the .

***Solution***











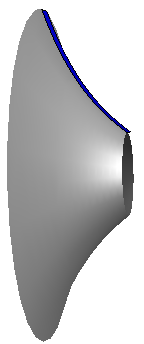


















***Exercise***

A single infected individual enters a community of *n* susceptible individuals. Let *x* be the number of newly infected individuals at time *t*. The common epidemic model assumes that the disease spreads at a rate proportional to the product of the total number infected and the number not yet infected. So,

 and you obtain

 Solve for *x* as a function of *t*.

***Solution***



































***Exercise***

Evaluate  in ***two*** different ways.

***Solution***

1. Partial method























1. Let 













