***Solution*** ***Section* 4.1 – Antiderivatives**

***Exercise***

Find indefinite integral 

***Solution***



***Exercise***

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***Exercise***

Evaluate the integral 

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***Exercise***

Find the function with the following property: 

***Solution***









At point (2, 0):











***Exercise***

Find the function with the following property: 

***Solution***

















***Exercise***

Find the function with the following property: 

***Solution***















***Exercise***

Find the function with the following property: 

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***Exercise***

Find the function with the following property: 

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Find the function with the following property: 

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***Exercise***

Find the function with the following property: 

***Solution***

 











***Exercise***

Derive the position function if a ball is thrown upward with initial velocity of 32 *feet* per second from an initial height of 48 *feet*. When does the ball hit the ground? With what velocity does the ball hit the ground?

***Solution***

































The ball hits the ground in 3 *seconds*

The velocity: 





***Exercise***

Suppose a publishing company has found that the marginal cost at a level of production of *x* thousand books is given by



And that the fixed cost (the cost before the first book can be produced) is a $25,000. Find the cost function .

***Solution***













 Before the first (*x* = 0) costs 25,000





***Exercise***

Find the general solution of , and find the particular solution that satisfies the initial condition *F*(1) = 8.

***Solution***

















***Exercise***

The marginal cost function for producing *x* units of a product is modeled by



It costs $40 to produce one unit. Find the cost of producing 200 units.

***Solution***





Cost $40 for one unit





K = 12.01





