





1. The rate of change of the function  $f(x)$  at  $x = a$  is given by  $f'(a)$ .

Point	Value of $f(x)$	Value of $f'(x)$
$x = 0$	$f(0) = 1$	$f'(0) = 0$
$x = 1$	$f(1) = 2$	$f'(1) = 1$
$x = 2$	$f(2) = 4$	$f'(2) = 2$
$x = 3$	$f(3) = 9$	$f'(3) = 3$
$x = 4$	$f(4) = 16$	$f'(4) = 4$
$x = 5$	$f(5) = 25$	$f'(5) = 5$



*(Signature)*  
**Principal**  
**Government College**  
**University**

The rate of change of the function  $f(x)$  at  $x = a$  is given by  $f'(a)$ .

Let  $f(x) = x^2$ . Then  $f'(x) = 2x$ .  
 At  $x = 1$ ,  $f'(1) = 2 \times 1 = 2$ .  
 At  $x = 2$ ,  $f'(2) = 2 \times 2 = 4$ .  
 At  $x = 3$ ,  $f'(3) = 2 \times 3 = 6$ .

The rate of change of the function  $f(x)$  at  $x = a$  is given by  $f'(a)$ .  
 For example, if  $f(x) = x^2$ , then  $f'(x) = 2x$ .  
 At  $x = 1$ ,  $f'(1) = 2$ .  
 At  $x = 2$ ,  $f'(2) = 4$ .  
 At  $x = 3$ ,  $f'(3) = 6$ .



The first step in the process of writing a research paper is to choose a topic. This should be a topic that interests you and one that you are knowledgeable about. Once you have chosen a topic, you need to narrow it down to a specific question or problem. This is often done by asking yourself "What do I want to know about this topic?" or "What problem do I want to solve?"

The next step is to gather information. This can be done through a variety of sources, including books, articles, websites, and interviews. It is important to evaluate the sources you use to ensure they are credible and reliable. Once you have gathered information, you need to organize it. This can be done by creating an outline or a flowchart that shows the relationship between the different pieces of information.

The final step is to write the paper. This should be done in a clear and concise manner, using the information you have gathered and organized. It is important to include a thesis statement that clearly states your main argument or conclusion. The paper should also include a conclusion that summarizes your findings and discusses their implications.



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