



<p>Dengan definisi turunan:</p> $\frac{dy}{dx} = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h} = f'(x)$ <p>maka buktikanlah/carilah turunan untuk fungsi-fungsi di bawah ini:</p> <p>01. <math>f(x) = x^2</math></p>	
<p>02. <math>f(x) = x^n</math></p>	
<p>03. <math>f(x) = \sin x</math></p>	
<p>04. <math>f(x) = \cos x</math></p>	
<p>05. <math>h(x) = \frac{f(x)}{g(x)}</math> <math>h'(x) = \dots</math></p>	
<p>06. <math>f(2) = 3</math>    <math>g(2) = -1</math> <math>f'(2) = 4</math>    <math>g'(2) = 5</math></p> <p>Jika <math>h(x) = f(x) \cdot g(x)</math> maka <math>h'(2) = \dots</math></p>	



07. $f(2) = 3$ $g(2) = -1$ $f'(2) = 4$ $g'(2) = 5$  Jika $h(x) = f(x) / g(x)$ maka $h'(2) = \dots$	
08. $f(x) = \tan \sqrt{x^2 + x}$ $f'(x) = \dots$	
09. $g(x) = \sin^6 \cos (x^2 + 1)$ $g'(x) = \dots$	
10. $h(x) = \frac{\sin(x^2 + 3)}{(x^4 + x^3)}$ $h'(x) = \dots$	
11. $\lim_{a \rightarrow 0} \frac{\tan(x) - \tan(x+a)}{a} = \dots$	
12. $\lim_{a \rightarrow 0} \frac{2((x+a)^3 + (x+a)^2 - x^3 - x^2)}{a} = \dots$	
13. $\lim_{a \rightarrow 0} \frac{3a}{\sqrt{x+a} - \sqrt{x}} = \dots$	



14. $\lim_{h \rightarrow 0} \frac{f(g(x+h)) + h - f(g(x))}{h} = \dots$	
15. Untuk selang manakah fungsi: $y = f(x) = x^2 - 4$ turun?	
16. Untuk selang manakah fungsi: $y = f(x) =  x^2 - 16 $ turun?	
17. Jika untuk $0 \leq x \leq 4$ $f'(x) > 0$ , $g'(x) < 0$ , $g(4) = 3$ , dan $f(4) = 3$ maka .... (A) $g(0) > f(0) > 0$ (B) $f(0) > g(0)$ (C) $f(0) < g(0)$ (D) $f(0) < g(0) < 0$ (E) $f(4) < g'(4)$	