

Differentiate

Name _____

Date _____

Use the chain rule.

Problem	Answer	Problem	Answer
1. $(3x + 1)^5$		4. $\ln(2x + 3)$	
2. $\sin(x^2)$		5. $\sqrt{1 + x^2}$	
3. $e^{(5x)}$		6. $\cos^3 x$	

Answer key — Differentiate

#	Problem	Answer
1	$(3x + 1)^5$	$15(3x + 1)^4$
2	$\sin(x^2)$	$2x \cos(x^2)$
3	$e^{(5x)}$	$5e^{(5x)}$
4	$\ln(2x + 3)$	$2/(2x + 3)$
5	$\sqrt{(1 + x^2)}$	$x/\sqrt{(1 + x^2)}$
6	$\cos^3 x$	$-3\cos^2 x \sin x$