
Use the product or quotient rule.

Problem	Answer	Problem	Answer
1. $x^2 \cdot \sin x$		4. $\ln x / x$	
2. $x \cdot e^x$		5. $x^3 \cdot \ln x$	
3. $(x+1)/(x-1)$		6. $\sin x / x$	

Answer key — Differentiate

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

Notes