

Find the derivative of each function.

1. $\ln(x^2 - x)$
2. $3 \cos(\sqrt{x})$
3. $\sin(\tan(x))$
4. e^{x^2}
5. $(e^x)^2$
6. $e^{\sin(3x)}$
7. $\left(\frac{x^2}{\ln(x)}\right)^3$
8. $\sqrt{x^2 \cos(x)}$
9. $\cos(\sin(x^5))$
10. $\tan(e^x)$
11. $\frac{\sec(x^2)}{e^x}$
12. 3^x

Hint for 12:

$$3 = e^{\ln(3)} \text{ gives } 3^x = (e^{\ln(3)})^x = e^{\ln(3)x}$$