

Bestimme jeweils die Ableitungsfunktion!

1. $f(x) = \sin\left(\frac{1}{3}x^3\right)$

2. $g(x) = (x^{-2})^5$

3. $h(x) = \cos 2x$

4. $k(x) = (1 - sx^2)^3$

5. $l(x) = \sqrt{2kx}$

6. $m(x) = \sin^2 x$

7. $f(x) = \sin(2x) \cdot x$

8. $g(x) = (x-1)(x^2 - 2x + 1)^2$

9. $h(x) = \frac{\sin 2kx}{x}$

10. $k(x) = x^2(x^2 - 4)^2$

11. $l(x) = \frac{18x}{(x^2 + 3)^2}$

12. $m(x) = \cos 2x^2 \cdot \sin 2x^2$

13. $f(x) = (2ax + 2)^2 \cos x$

14. $g(x) = \left(\frac{1+x}{1-x}\right)^2$

15. $h(x) = \cos(x^2 - 4) \cdot x^2 - \sin(x^2 - 4)$

16. $k(x) = 5x^2 \cdot \cos \frac{1}{5}x$

17. $l(x) = \sqrt{2x} \cdot x^2$