

Differentieer: Antwoorden**oefening 3**

1. $T(t) = \frac{4t^2 - 6t + 1}{t} = 4t - 6 + t^{-1}$ dus $T'(t) = 4 - t^{-2}$
2. $f(x) = \frac{1 + \sin x}{1 - \sin x}$ dus $f'(x) = \frac{(1 - \sin x) \cdot \cos x - (1 + \sin x) \cdot (-\cos x)}{(1 - \sin x)^2}$
3. $f'(x) = 1,5 \cdot x^{0,5} - 2x^{-0,5}$
4. $f'(x) = 8x$
5. $f'(x) = 8x + 2$
6. $f'(x) = 2$
7. $f'(x) = -4x - 2$
8. $f'(x) = 3(x+1)^2$
9. $f'(x) = 3 \cdot x^2 \cdot \sin x + x^3 \cdot \cos x$
10. $g'(x) = 2x \cdot (x + \sin x) + (3 + x^2) \cdot (1 + \cos x)$
11. $h'(x) = \frac{x \cdot (2x) - (4 + x^2) \cdot 1}{x^2} = \frac{x^2 - 4}{x^2}$
12. $k'(x) = \frac{5x \cdot 0 - 3 \cdot 5}{(5x)^2} = \frac{-15}{25x^2} = \frac{-3}{5x^2}$
13. $l'(x) = \frac{(x^2 + 1) \cdot \cos x - \sin x \cdot 2x}{(x^2 + 1)^2}$
14. $m'(x) = 1 + 2 \cdot x^{-1/2}$
15. $f'(x) = -5(x+1)^{-2}$
16. $f'(x) = \sqrt{1-x} + x \cdot \frac{1}{2} \cdot (1-x)^{-\frac{1}{2}} \cdot (-1)$
17. $f'(x) = \frac{1}{2} \cdot (\sin(x^2))^{-\frac{1}{2}} \cdot \cos(x^2) \cdot 2x$
18. $f'(x) = (2 - 3x^2) \cdot \sqrt{x} + (2x - x^3) \cdot \frac{1}{2} \cdot x^{-\frac{1}{2}}$
19. $f'(x) = \frac{4}{3} \cdot -1 \cdot x^{-2}$
20. $f'(x) = 3 \cdot -\frac{1}{2} \cdot x^{-\frac{1}{2}}$