



Mathematik-Übungsblatt mit Lösungen von www.worksheeps.de / www.mathe-aufgaben.net
Mathe-Aufgaben mit Lösungen einfach schnell selbst erstellen.

Faktorregel

1) $f(x) = 10x^{24}$

$$f'(x) = 240x^{23}$$
$$f''(x) = 5520x^{22}$$

2) $f(x) = \sqrt{2} \cdot x^{15}$

$$f'(x) = 15\sqrt{2} \cdot x^{14}$$
$$f''(x) = 210\sqrt{2} \cdot x^{13}$$

3) $f(x) = 14x^{22} + 14$

$$f'(x) = 308x^{21}$$
$$f''(x) = 6468x^{20}$$

4) $f(x) = (-19)x^{21}$

$$f'(x) = (-399)x^{20}$$
$$f''(x) = (-7980)x^{19}$$

5) $f(x) = \sqrt{18} \cdot x^{-21}$

$$f'(x) = -21\sqrt{18} \cdot x^{-22}$$
$$f''(x) = 462\sqrt{18} \cdot x^{-23}$$

6) $f(x) = (-18)x^{17} + 19$

$$f'(x) = (-306)x^{16}$$
$$f''(x) = (-4896)x^{15}$$

7) $f(x) = \sqrt{2} \cdot x^{-48}$

$$f'(x) = -48\sqrt{2} \cdot x^{-49}$$
$$f''(x) = 2352\sqrt{2} \cdot x^{-50}$$

8) $f(x) = \sqrt{10} \cdot x^{16}$

$$f'(x) = 16\sqrt{10} \cdot x^{15}$$
$$f''(x) = 240\sqrt{10} \cdot x^{14}$$

9) $f(x) = 13x^{13}$

$$f'(x) = 169x^{12}$$
$$f''(x) = 2028x^{11}$$

10) $f(x) = (-13)x^{18} + 6$

$$f'(x) = (-234)x^{17}$$
$$f''(x) = (-3978)x^{16}$$