POTENZEN - LÖSUNG

① a) $x^3 \cdot x^4 = x^{3+4} = x^7$

b) $a^5 \cdot a^2 = a^{5+2} = a^7$

c) $a^3 \cdot a^{-4} = a^{3+(-4)} = a^{-1}$

d) $a^3 \cdot a^{-3} = a^{3+(-3)} = a^0 = 1$

② a) $x^3 : x^4 = x^{3-4} = x^{-1}$

b) $a^3 : a^{-4} = a^{3-(-4)} = a^{3+4} = a^7$

c) $-a^{-2} : a^2 = -a^{-2-2} = -a^{-4}$

③ a) $(x^3)^2 = x^{3 \cdot 2} = x^6$

b) $(x^{-2})^3 = x^{-2 \cdot 3} = x^{-6}$

c) $(a^2 b)^3 = (a^2)^3 \cdot b^3 = a^6 b^3$

d) $\left(x^{\frac{1}{3}}\right)^6 = x^{\frac{1}{3} \cdot 6} = x^2$

④ a) $(x^3 y^2 x^{-2})^4 = x^{12} y^8 x^{-8} = x^4 y^8$

b) $\frac{x^3}{x^2} = x^{3-2} = x^1 = x$

c) $\frac{x^3}{x^7} = x^{3-7} = x^{-4}$

d) $\frac{x^3}{x^{-3}} = x^{3-(-3)} = x^{3+3} = x^6$

e) $\frac{x^2 y^3 z^{-2}}{x^3 y^{-2} z^3} = x^{-1} y^5 z^{-5}$

f) $\frac{x^{-3} y^2 z}{y x^2 z^3} = x^{-5} y z^{-2}$

g) $\left(\frac{x^2 y}{x y^2}\right)^3 = \left(\frac{x}{y}\right)^3 = \frac{x^3}{y^3} = x^3 y^{-3}$

Mobil & whatsapp 0173-3047 206 • Internet franko-mathe.de/SRH • E-Mail info@franko-mathe.de • Dozent Rawe Franko • Bereich SRH Fachschulen Heidelberg