

### Aufgabe 10

a)  $x^5 \cdot x^3 = x^{5+3} = x^8 \neq x^{15} = (x^5)^3$

b)  $b \cdot x^2 \neq b^2 x^2 = (b \cdot x)^2$

c)  $(-x)^3 = -x^3$

d)  $(-x)^4 = x^4$

e)  $\frac{p^3}{9} \neq \frac{p^3}{27} = \frac{p^3}{3^3} = \left(\frac{p}{3}\right)^3$

f)  $\frac{2^3}{r} = \frac{8}{r} \neq \frac{8}{r^3}$

g)  $n^2 + n^2 = 2n^2 \neq n^4$

h)  $n^2 + 3n^2 = 4n^2$

i)  $x^2 + y^2 \neq x^2 + 2xy + y^2 = (x + y)^2$

j)  $5^2 + k^2 = 25 + k^2 \neq 5^2 + 10k + k^2 = (5 + k)^2$

k)  $-(s^2 \cdot t^3)^2 = -s^4 \cdot t^6$

l)

$$-2b^3 \cdot (-2b)^3 = -2b^3 \cdot (-2)^3 \cdot b^3 = -2b^3 \cdot (-8)b^3 = 16b^6$$

$$(-2b)^6 = (-2)^6 \cdot b^6 = 64b^6$$

Somit ist  $-2b^3 \cdot (-2b)^3 \neq (-2b)^6$