

1. Operace s mocninami

a) $a^2 \cdot 3a^7 = 3a^9$

b) $12x^5 : 3x^2 = 4x^3$

c) $7^5 \cdot 7^2 \cdot 7^4 = 7^{11}$

d) $(3a^2b)^4 = 3^4 a^8 b^4$

e) $\left(\frac{2a}{b}\right)^2 \cdot \left(\frac{2a}{b}\right)^3 = \frac{2^5 a^5}{b^5}$

f) $a^5 \cdot 2a^4 = 2a^9$

g) $(t^2 \cdot t^3) + 4t^5 = 5t^5$

h) $2(4u^2 + 7 - u^2 - 3) = 6u^2 + 8$

i) $(5a^2 - 9a^2 + 7a^2) \cdot 3a^6 = 9a^8$

j) $\left(\frac{3a^3}{2b^2}\right)^4 = \frac{3^4 a^{12}}{2^4 b^8}$

k) $(7a^3)^5 : (7a^3)^3 = 49a^6$

l) $(5a^2x^3)^2 = 25a^4x^6$

m) $((-2x^2) \cdot 8x^3)^2 = 256x^{10}$

n) $(-2a^2 + 4a^2 - 7a^2) : a^3 = -5a^{-1}$

o) $\frac{2}{5} \cdot \left(\frac{2}{5}\right)^2 = \frac{8}{125}$

p) $(3m^2)^3 \cdot (3m^2)^4 = 3^7 m^{14}$

q) $(-2a^2 - 8a^2) : 5a^7 = -2a^{-5}$

r) $(5m^3a^2)^4 = 5^4 m^{12} a^8$

s) $-7u + 5u^3 - u - 8u^3 = -3u^3 - 8u$

t) $\frac{a}{2b} \cdot \frac{3a^3}{3b^2} = \frac{a^4}{2b^3}$

u) $(2m^5)^2 : 4m^3 = m^7$

v) $(3x^3 - 7x^3)^3 = -64x^9$

w) $2m : (2m)^5 = 2^{-4} m^{-4}$

x) $3m^5 \cdot 12m^3 = 36m^8$

y) $(-12y^3 + 8y^3) \cdot 2y^5 = -8y^8$

z) $(2y^2a^3)^6 = 2^6 y^{12} a^{18}$

2. Operace s mocninami

a) $(2m^2 - 5m^2) \cdot (3m^2)^3 = -3^4 m^8$

b) $2u^2 \cdot 3u^2 \cdot 4u^2 = 24u^6$

c) $\frac{b}{a^3} : \left(\frac{b}{a^3}\right)^5 = \frac{b^{-4}}{a^{-12}}$

d) $(2a+b)^{14} : (2a+b)^{10} = (2a+b)^4$

e) $(1+3a+1)^2 \cdot (2+3a)^5 = (2+3a)^7$

f) $(4a^5 - 5a^5)^2 = a^{10}$

g) $(7a^3 - 5a^3)^3 = 8a^9$

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

i) $(-3x^2)^2 : x = 9x^3$

j) $(-5x)^2 \cdot 12x = 300x^3$

k) $(4a^2)^2 \cdot (4a^2)^3 = 4^5 a^{10}$

l) $(2m^2)^2 \cdot (3n^2)^2 = 36m^4 n^4$

m) $\left(\frac{2ab^3}{5c^2}\right)^5 = \frac{2^5 a^5 b^{15}}{5^5 c^{10}}$

n) $(3x^2 - 5x^2) \cdot 4x^4 = -8x^6$

o) $8x^5 - 6x^3 + 4x^5 = -8x^3 + 12x^5$

p) $(2x+3)^3 \cdot (2x+3)^6 = (2x+3)^9$

q) $(8+4y)^2 : (8+4y)^2 = 1$

r) $\left(\frac{4x}{y^2}\right)^6 : \left(\frac{4x}{y^2}\right)^3 = \frac{64 x^3}{y^6}$

s) $(5x^2 - 8x^2) \cdot 3x^5 = -9x^7$

t) $(-u^2 + 3u^2 - 2u^2) \cdot 3a^7 = 0$

u) $(7x^4 - 12x^4 + 3x^4) : 2x^6 = -x^{-2}$

v) $(-2u^2 + 8u^2)^3 \cdot u = 216u^7$

w) $\frac{3}{4}a - \frac{2}{5}a^2 - \left(-\frac{1}{2}a\right) + \frac{3}{10}a^2 = \frac{-1}{10}a^2 + \frac{5}{4}a$

x) $(-8a^2 - 9a^2 + 7a^2) \cdot 4a^4 = -40a^6$

y) $(-4b^3 + 8b^3) \cdot (2b^2)^2 = 16b^7$

z) $(-7a^2 + 5a^2 - 8a^2) \cdot 7a^5 = -70a^7$

3. Operace s mocninami

a) $(3x^2 - 7x^2) : 5a^7 = \frac{-4}{5} x^{-5}$

b) $3b^2 \cdot (-8b^3 + 10b^3) = 6b^5$

c) $(a+7a)^4 : a^2 = 8^4 a^2$

$$d) \left(\frac{2a}{b}\right)^2 \cdot \left(\frac{3a^2}{b}\right)^2 = \frac{36 a^6}{b^4}$$

$$e) (5a^2 - 7a^2)^5 = -2^5 a^{10}$$

$$f) (7a^2 - 15a^2) \cdot 2a^3 = -16a^5$$

$$g) (-3x + 5x) \cdot 4x^3 = 8x^4$$

$$h) (-4x^2 - 5x^2) : 6x^7 = \frac{-3}{2} x^{-5}$$

$$i) \left(\frac{7a^4 x^2}{y}\right)^5 = \frac{7^5 a^{20} x^{10}}{y^5}$$

$$j) 3 \cdot (a^2 - 4a^2 - 3a^2) = -18a^2$$

$$k) 5a^7 \cdot 7a^8 = 35a^{15}$$

$$l) (a+5)^3 \cdot (a+5)^4 = (a+5)^7$$

$$m) (7xb^2)^3 = 343x^3b^6$$

$$n) \left(\frac{4k^2}{m}\right)^3 : \frac{4k^2}{m} = \frac{16 k^4}{m^2}$$

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

$$p) 3x^4 \cdot (4x^2 - 8x^2) = -12x^6$$

$$q) (10y^4 - 8y^4) : y^3 = 2y$$

$$r) 8a^2 \cdot 3a - 5a^3 = 19a^3$$

$$s) \left(\frac{1}{ab}\right)^3 \cdot \left(\frac{1}{ab}\right)^3 = \frac{1}{a^6 b^6}$$

$$t) 4a \cdot (3x^2 + 8x^2 - 5x^2) = 24ax^2$$

$$u) (5a^2x + 6a^2x) : ax = 11a$$

$$v) [-3x^8 + (-4x^8)] : 3x^5 = -\frac{7}{3} x^3$$

$$w) na^2 : n^2 a = n^{-1} a$$

$$x) \left(\frac{5ab^4}{3c^2}\right)^3 = \frac{125 a^3 b^{12}}{27 c^6}$$

$$y) 7x^4 \cdot 3x^5 = 21x^9$$

$$z) (4x)^2 \cdot (4x)^5 = 4^7 x^7$$

$$d) \left(\frac{1}{3kc}\right)^7 : \left(\frac{1}{3kc}\right)^5 = \frac{1}{9 k^2 c^2}$$

$$e) (3a^3b^2)^4 = 3^4 a^{12} b^8$$

$$f) 5x^4 - 9x^4 + 6x^4 = 2x^4$$

$$g) 5a^2 - 7a + 6a^2 - 10a = 11a^2 - 17a$$

$$h) 3(ax^2 - a^2x + 3ax^2 + a^2x) = 12ax^2$$

$$i) 4a \cdot \left(\frac{3a^2}{2}\right)^2 = 9a^5$$

$$j) 3t^2 - 5a^2 - 4t^2 + 6a^2 = -t^2 + a^2$$

$$k) 6u + 7u^2 - 12u + 8u^2 = 15u^2 - 6u$$

$$l) -5a^2 - (-4a^2) - 7a^2 = -8a^2$$

$$m) 4 \cdot (-y^2 + 4y^2 + 8y^2) = 44y^2$$

$$n) \left(\frac{5a^3b^2}{c^4}\right)^3 = \frac{125 a^9 b^6}{c^{12}}$$

$$o) 3ab^2 - 8ab^2 + 11ab^2 = 6ab^2$$

$$p) -5y^3 - (-3y^3) + 7y^3 + y^3 = 6y^3$$

$$q) 7 \cdot (x^2 - 3x^2 - 8x^2 + x^2) = -63x^2$$

$$r) (3a^4 - 7a^4 + 8a^4) \cdot 3a^5 = 12a^9$$

$$s) \left(\frac{1}{m^3}\right)^3 \cdot \frac{1}{m^3} = \frac{1}{m^{12}}$$

$$t) 3x^3 \cdot 4x^2 \cdot 2x^5 = 24x^{10}$$

$$u) (2y+3a)^5 \cdot (2y+3a)^4 = (2y+3a)^9$$

$$v) (t-6)^6 : (t-6)^4 = (t-6)^2$$

$$w) 4x^3 \cdot (-3x^4 + 9x^4 - 2x^4) = 16x^7$$

$$x) (7y^3 - 9y^3) \cdot (3y - y)^3 = -16y^6$$

$$y) (-3y+5y)^3 \cdot (-2a^3+8a^3) = 48y^3 a^3$$

$$z) 3b^5 - 8b^3 + 7b^5 + 3b^3 = 10b^5 - 5b^3$$

4. Operace s mocninami

$$a) 12a^2 \cdot 2y^2 = 24a^2 y^2$$

$$b) (3+k)^2 \cdot (3+k)^5 = (3+k)^7$$

$$c) (7a+3)^5 \cdot (3+7a)^4 = (7a+3)^9$$