1. Poenostavi izraze z združevanjem členov, da bodo izrazi čim krajši in enostavnejši.

a) 2x4+x3–2x2+18x–4+22x–16x2+33x3+4

b) x+y+2z–13x–x2+6y2

c) x4+x2+4y+2y

d) a+3b+22c 2–(3+a+10c2)

e) n3–3mn2+3nm2–m3–(m3–4n3+6mn2)

2. Izračunaj.

a) 3·(2x2+6x–1)

b) –3·(x+y+z2–3)

c) (x6+x–12)·3x

d) (a+3b+12)·(–2a)

3. Izračunaj.

a) (2+x)·(x–4)

b) (x–3y)·(x2+xy+1)

c) (–2+a3)·(a3–4a2+a–1)

d) (a–b+4c)·(1–3a2b2)

4. Poenostavi naslednje izraze.

a) 12+6x·(x-3)-(x+1)

b) 13-(a-1)·(b+1)-2·(a+6b)

c) (x4+1)·(x3–1)·2-3·(x7+9)

d) x+y–(x–2)(y+2)·2

e) (x2–x+1)·(x+1)–(x3+1)–(x+1)·x2

5. Dan je izraz 3–(x+3)·(–5–4x)–(x+3)·2+x2–3.

a) Izraz poenostavi.

b) Izračunaj vrednost izraza za x=–2.

REŠITVE:

**1.**

**a)** Veččlenik ima 5 členov: 2·x·y, 16·x2·y·z, x, y, –z

**b)** Veččlenik ima 3 člene: 1, (x–y), 2(x+y2)

**c)** Veččlenik ima 4 člene: x4· y6, –13x, –13y, –(x–4y)·5

**2.**

**a)** 2x4+x3–2x2+18x–4+22x–16x2+33x3+4=2x4+34x3–18x2+40x

**b)** x+y+2z–13x–x2+6y2=–12x+y+2z–x2+6y2

**c)** x4+x2+4y+2y=x4+x2+6y

**d)** a+3b+22c 2–(3+a+10c2)=a+3b+22c 2–3–a–10c2=3b+12c2–3

**e)** n3–3mn2+3nm2–m3–(m3–4n3+6mn2)=n3–3mn2+3nm2–m3–m3+4n3–6mn2=5n3–9mn2+3nm2–2m3

**3.**

**a)** 3·(2x2+6x–1)=6x2+18x–3

**b)** –3·(x+y+z2–3)=–3x–3y–3z2+9

**c)** (x6+x–12)·3x=3x7+3x2–36x

**d)** (a+3b+12)·(–2a)=–2a2–6ab–24a

**4.**

**a)** (2+x)·(x–4)=2x+x2–8–4x=x2–2x–8

**b)** (x–3y)·(x2+xy+1)=x3+x2y+x–3x2y–3xy2–3y=x3–2x2y+x–3xy2–3y

**c)** (–2+a3)·(a3–4a2+a–1)=–2a3+8a2–2a+2+a6–4a5+a4–a3=a6–4a5+a4–3a3+8a2–2a+2

**d)** (a–b+4c)·(1–3a2b2)=a–3a3b2–b+3a2b3+4c–12a2b2c

**5.**

**a)** 12+6x·(x–3)–(x+1)=12+6x2–18x–x–1=

=6x2–19x+11

**b)** 13–(a–1)·(b+1)–2·(a+6b)=13–(ab+a–b–1)–2a–12b=

=13–ab–a+b+1–2a–12b=–ab–3a–11b+14

**c)** (x4+1)·(x3–1)·2–3·(x7+9)=(x7–x4+x3–1)·2–3x7–27=

=2x7–2x4+2x3–2–3x7–27=–x7–2x4+2x3–29

**d)** x+y–(x–2)(y+2)·2=x+y–(xy+2x–2y–4)·2=

=x+y–(2xy+4x–4y–8)=x+y–2xy–4x+4y+8=–3x+5y–2xy+8

**e)** (x2–x+1)·(x+1)–(x3+1)–(x+1)·x2=x3+x2–x2+1+x+1–x3–1–(x3+x2)=

=x3+x2–x2–x+x–1–x3–1–x3–x2=–x3–x2

**6.**

**a)** 3–(x+3)·(–5–4x)–(x+3)·2+x2–3= 3–(–5x–15–4x2–12x)–(2x+6)+x2–3=

=3+5x+15+4x2+12x–2x–6+x2–3=

=5x2+15x+9

**b)** 5x2+15x+9=5·(–2)2+15·(–2)+9=5·4–30+9=20–30+9=–1