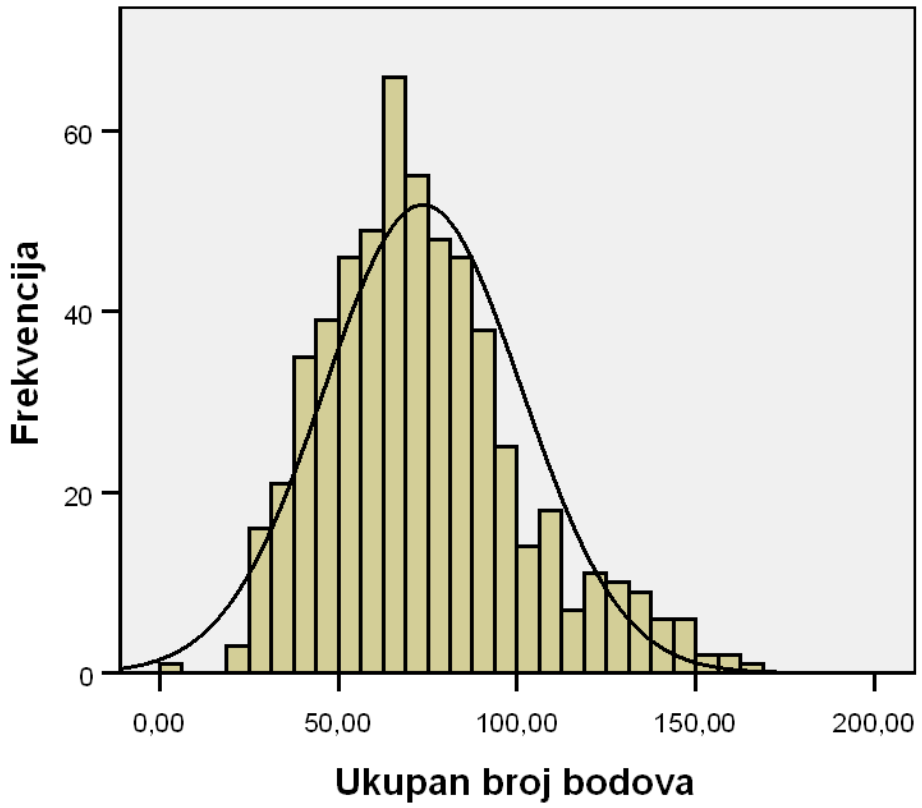
METRIJSKA ANALIZA NACIONALNOGA ISPITA IZ KEMIJE PROVEDENOGA U LIPNJU 2008.

Istraživačko-razvojni odjel
NCVVO

Ukupni rezultat na testu

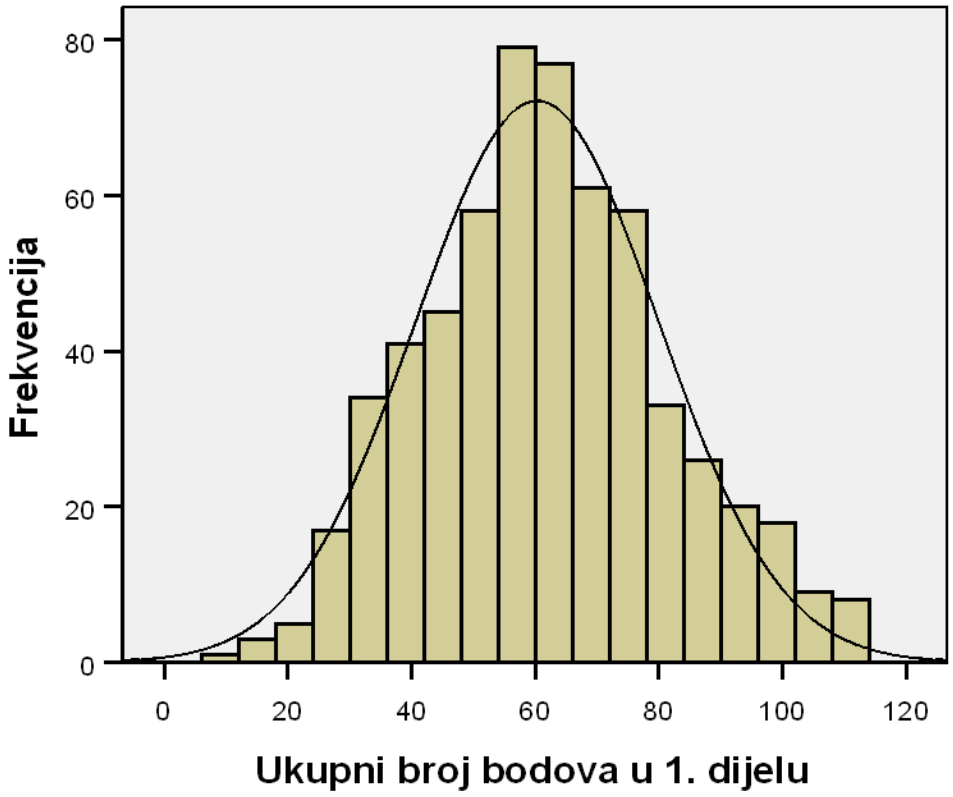


- N = 574
- M = 73,67
- SD = 27,607
- MIN = 6; MAX = 163,80
- Max. mogući rezultat = 180
- Cronbach α = 0,884
- r = 0,728

KEMIJA

I DIO ISPITA

1. dio


Frekvencija
80
60
40
20
0
0
20
40
60
80
100
120
Ukupni broj bodova u 1. dijelu

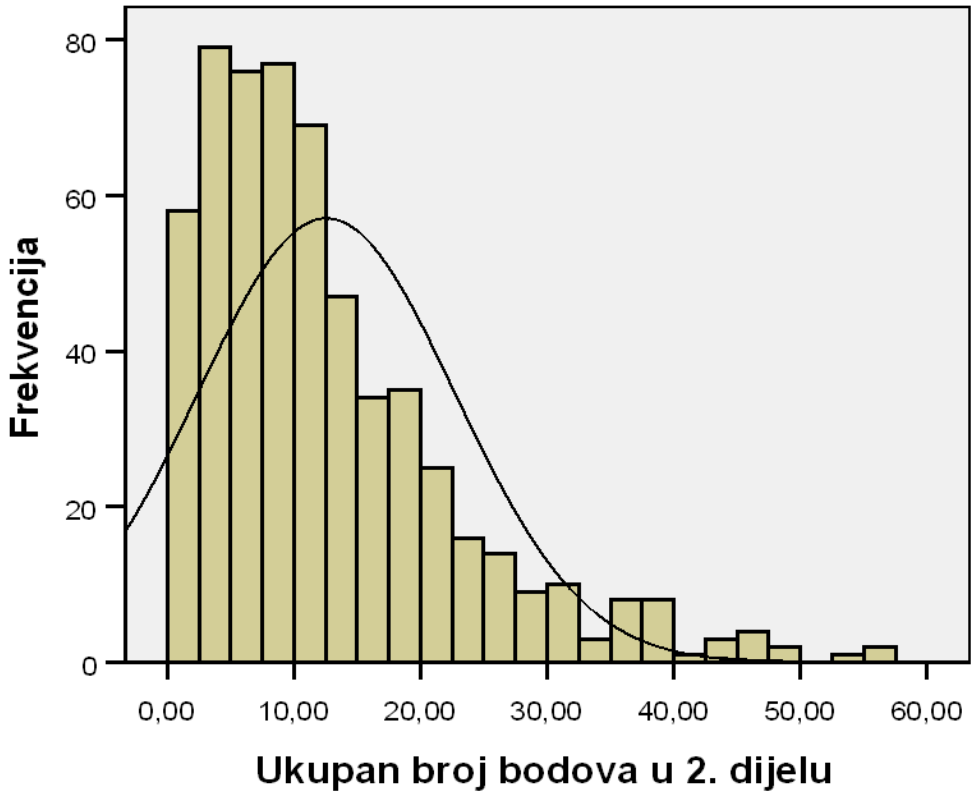
- N = 593
- M = 60,32
- SD = 19,664
- MIN = 6; MAX = 111
- Max. mogući rezultat = 120
- Cronbach α = 0,822

Težina zadatka	Redni broj zadatka
Vrlo težak (0 – 0,2)	35, 37, 38
Težak (0,21 – 0,4)	3, 14, 16, 17, 18, 29, 30, 32, 36
Srednje težak (0,41 – 0,6)	2, 6, 11, 13, 15, 19, 20, 22, 23, 24, 25, 27, 34, 39, 40
Lagan (0,61 – 0,80)	1, 4, 7, 8, 9, 12, 21, 33
Vrlo lagan (0,81 – 1)	5, 10, 26

KEMIJA

II DIO ISPITA

2. dio

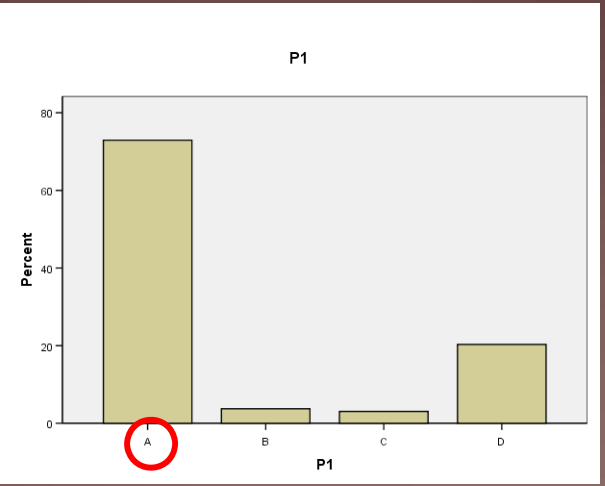

80
60
40
20
0
Frekvencija
0,00
10,00
20,00
30,00
40,00
50,00
60,00
Ukupan broj bodova u 2. dijelu

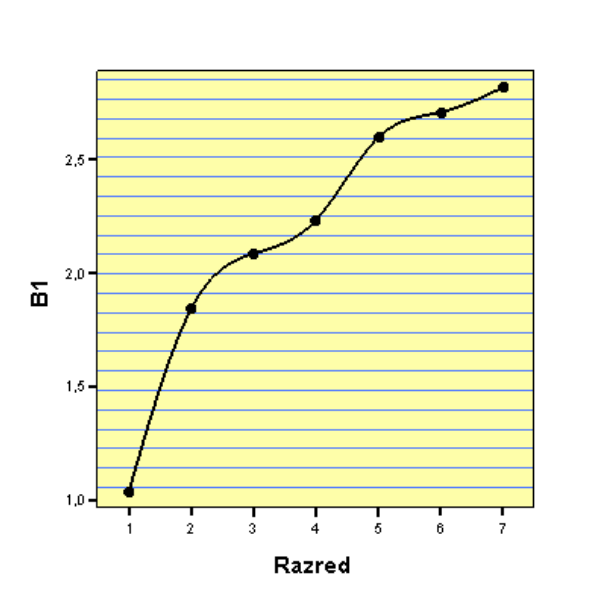
- N = 581
- M = 12,56
- SD = 10,148
- MIN = 0; MAX = 56
- Max. mogući rezultat = 60
- Cronbach α = 0,824

Težina zadatka	Redni broj zadatka
Vrlo težak (0 – 0,2)	2, 3, 4, 6, 8, 9, 10, 11, 12.4, 12.5
Težak (0,21 – 0,4)	1.A2, 1.C4, 1.C5, 1.D5, 5.2, 5.3, 7, 12.1, 12.3
Srednje težak (0,41 – 0,6)	1.A3, 1.A4, 1.A5, 1.B4, 1.B5, 1.C1, 1.C2, 1.C3, 1.C6, 1.D2, 1.D3, 1.D4, 1.D6, 12.2
Lagan (0,61 – 0,80)	1.A1, 1.A6, 1.B1, 1.B2, 1.B3, 1.B6, 1.D1, 5.1
Vrlo lagan (0,81 – 1)	

1. Koliki je oksidacijski broj atoma sumpora u sulfatnome ionu?

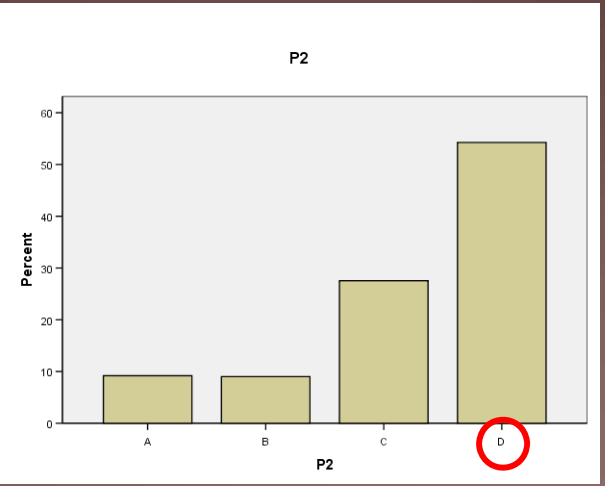
M	2,19 (0,73)
SD	1,333
ID	0,345
α - zadatak	0,882

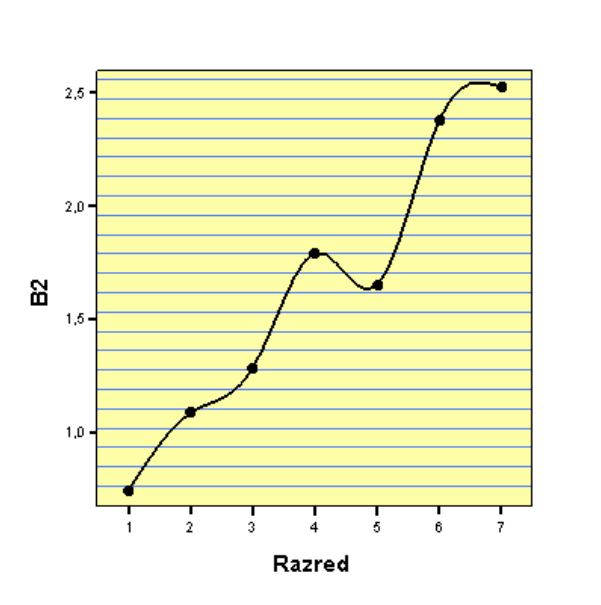




2. Koliki su oksidacijski brojevi atoma željeza u magnetitu, Fe3O4?

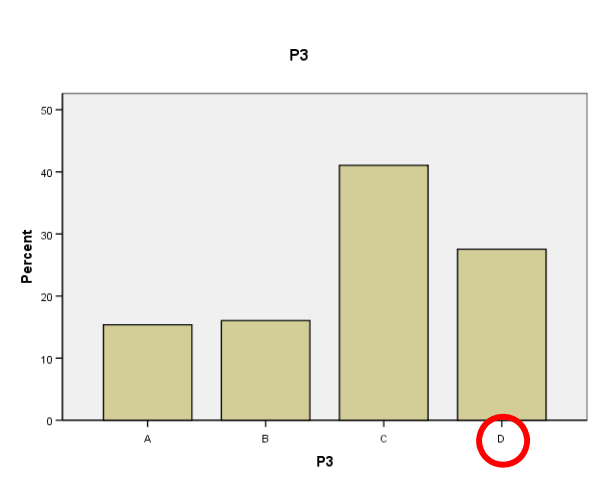
M	1,64 (0,55)
SD	1,495
ID	0,336
α - zadatak	0,882

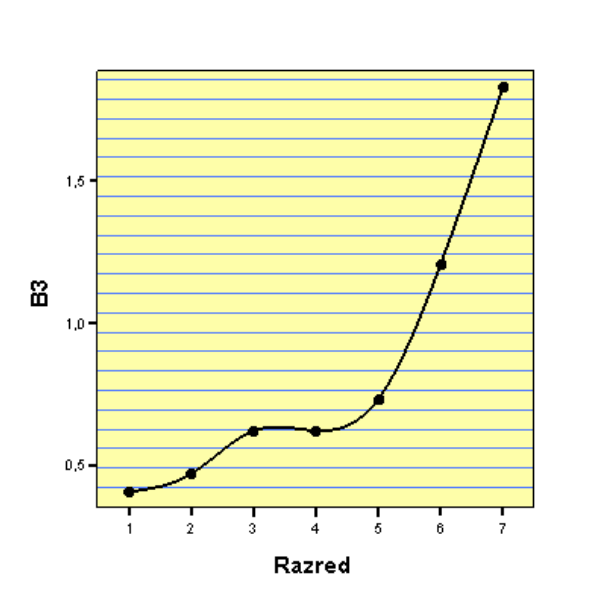




3. S koliko točkica mora biti okruženo slovo N …

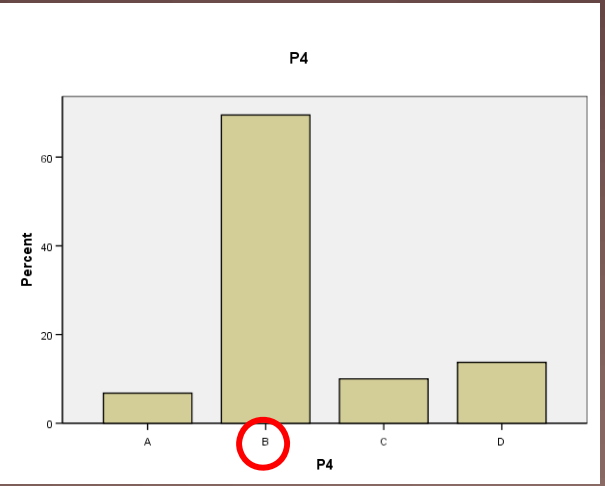
M	0,84 (0,28)
SD	1,349
ID	0,310
α - zadatak	0,882

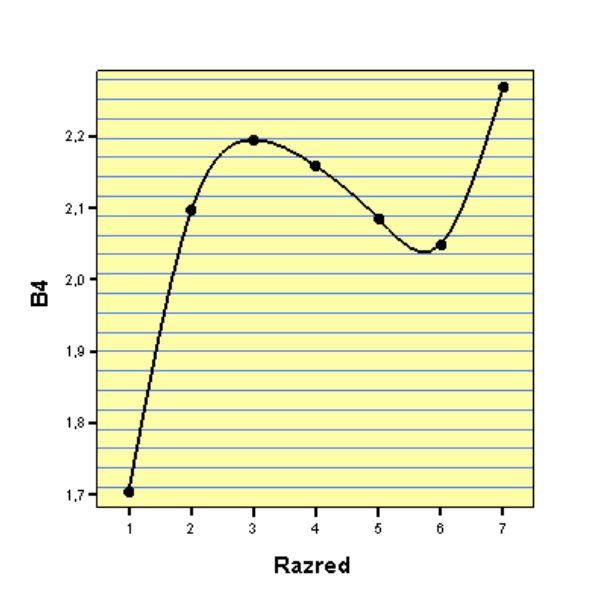




4. Kako opisujemo građu molekule NCl3?

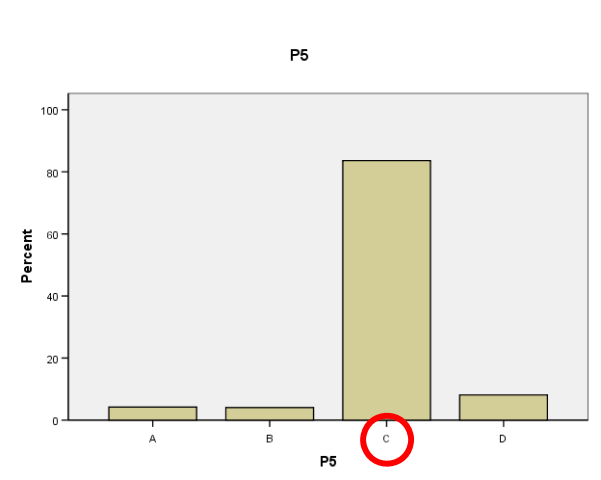
M	2,08 (0,69)
SD	1,384
ID	0,045
α - zadatak	0,886

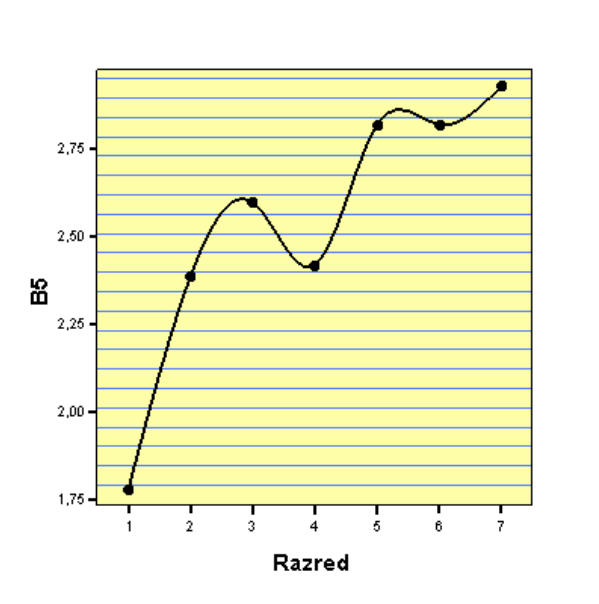




5. U kojem od navedenih Lewisovih prikaza dolazi do odstupanja...

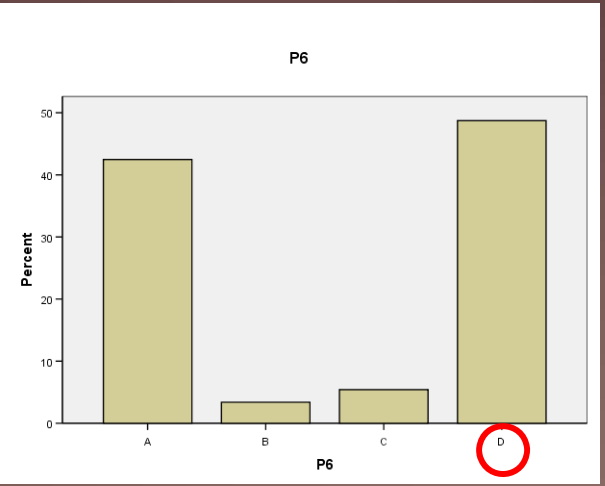
M	2,53 (0,84)
SD	1,087
ID	0,255
α - zadatak	0,883

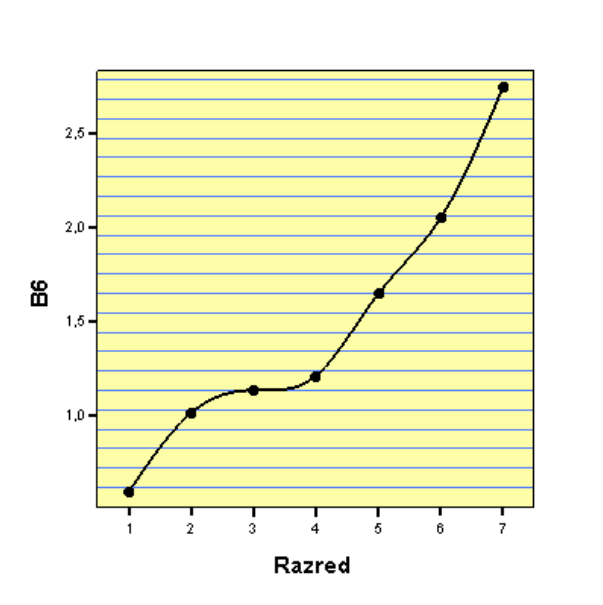




6. Koja od navedenih kemijskih formula ne označava molekulu?

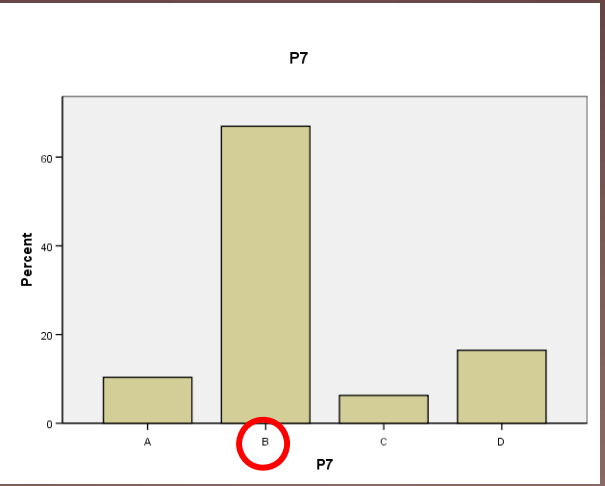
M	1,48 (0,49)
SD	1,501
ID	0,389
α - zadatak	0,881

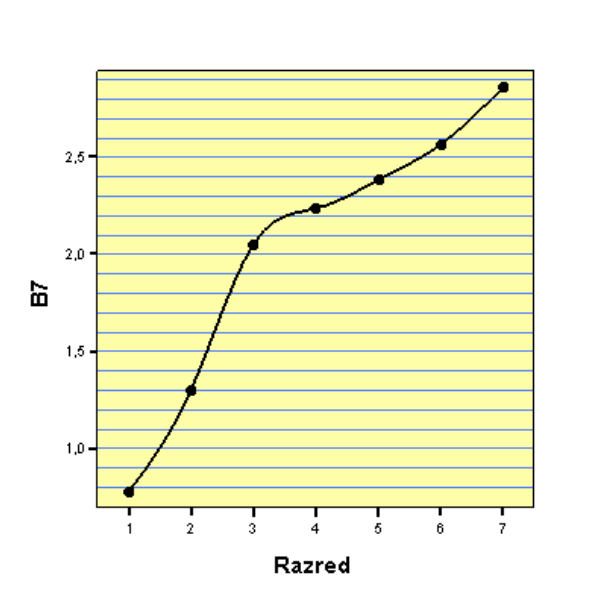




7. U kojem su nizu svi navedeni spojevi kovalentni?

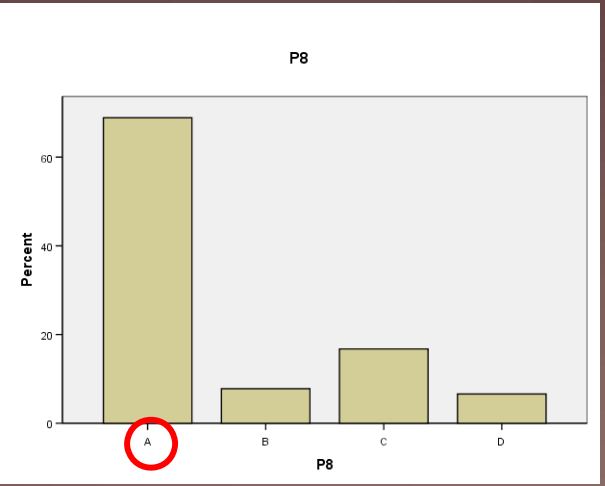
M	2,02 (0,67)
SD	1,407
ID	0,380
α - zadatak	0,881

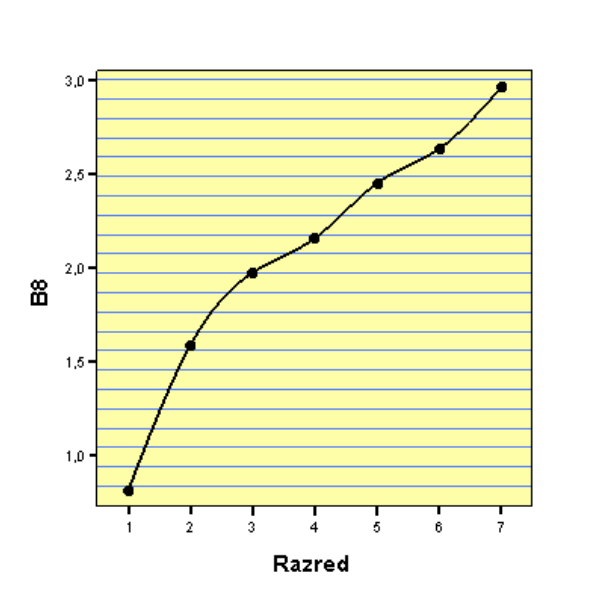




8. U kojoj je od navedenih tvari prisutna polarna kovalentna veza?

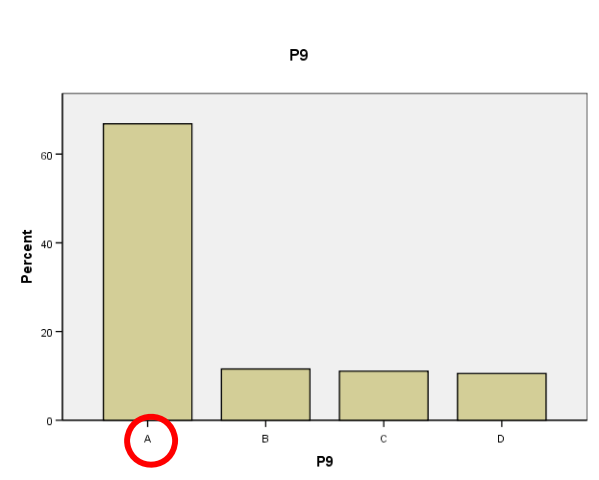
M	2,09 (0,70)
SD	1,382
ID	0,398
α - zadatak	0,881

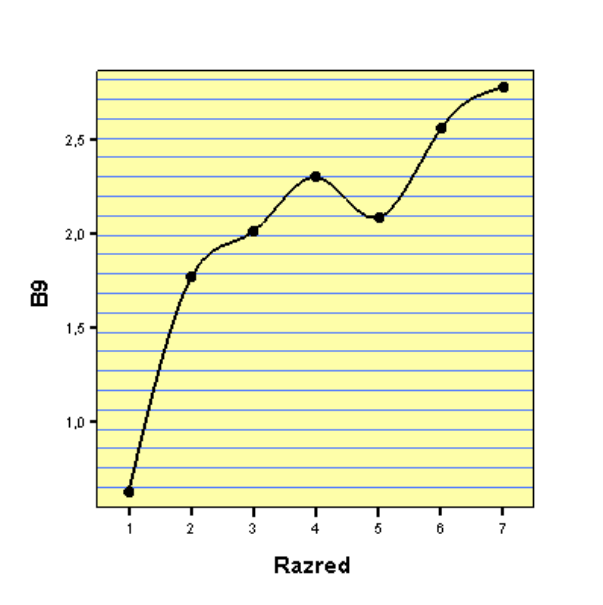




9. U kojem je od navedenih spojeva ionska veza najjača?

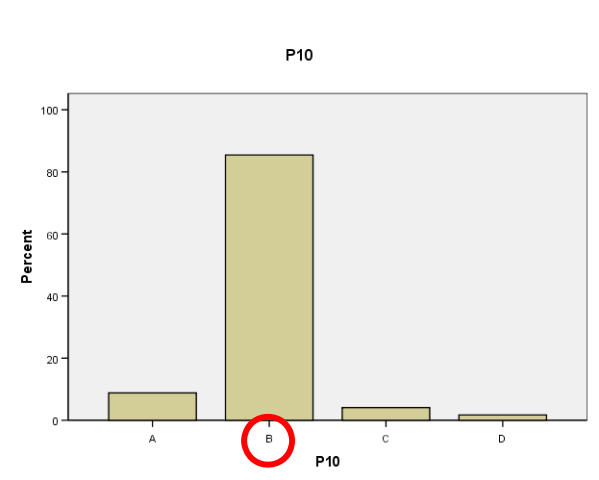
M	2,02 (0,67)
SD	1,407
ID	0,347
α - zadatak	0,882

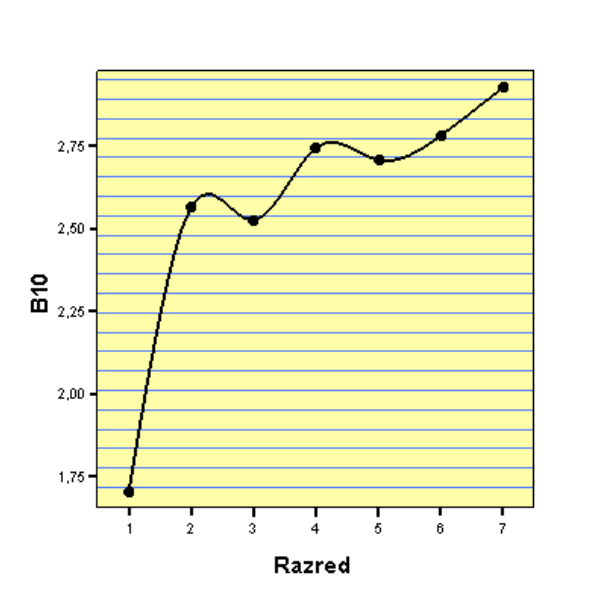




10. Kemijski spoj nastaje kemijskom reakcijom ...

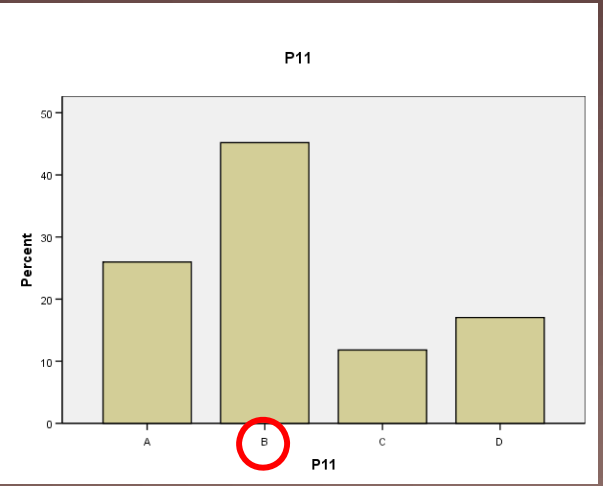
M	2,57 (0,86)
SD	1,056
ID	0,248
α - zadatak	0,883

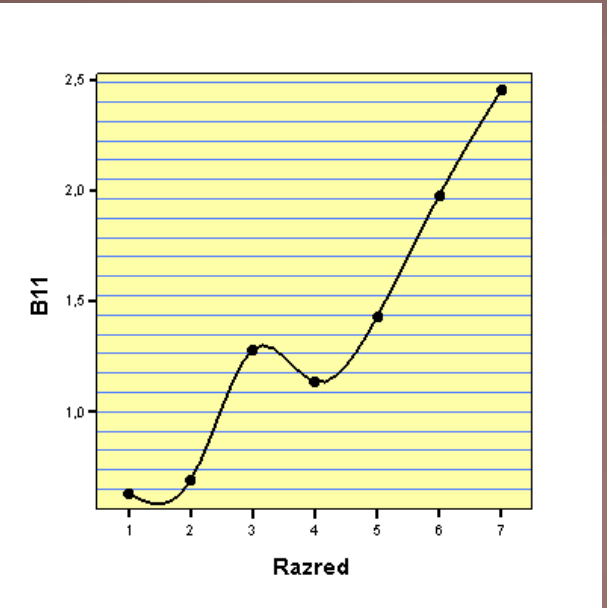




11. Koja od navedenih čestica ima najveći polumjer?

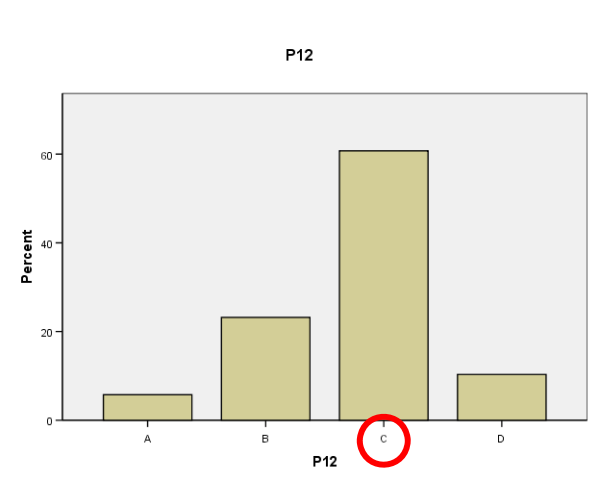
M	1,37 (0,46)
M (O)	
SD	1,496
ID	0,361
α - zadatak	0,881

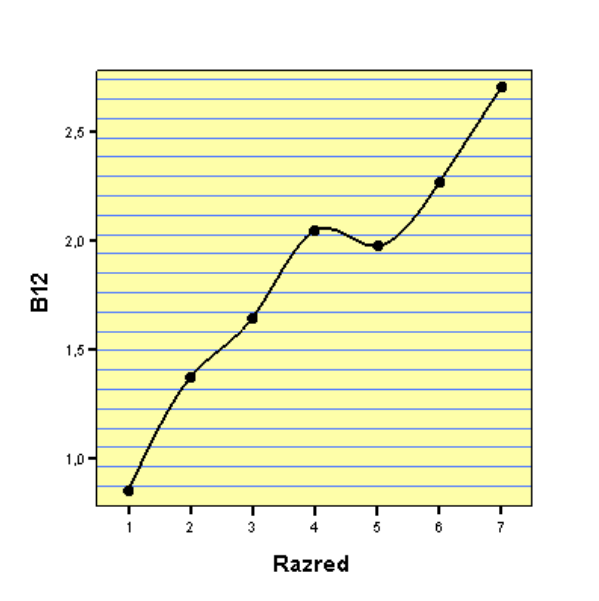




12. Koji je od navedenih atoma najelektronegativniji?

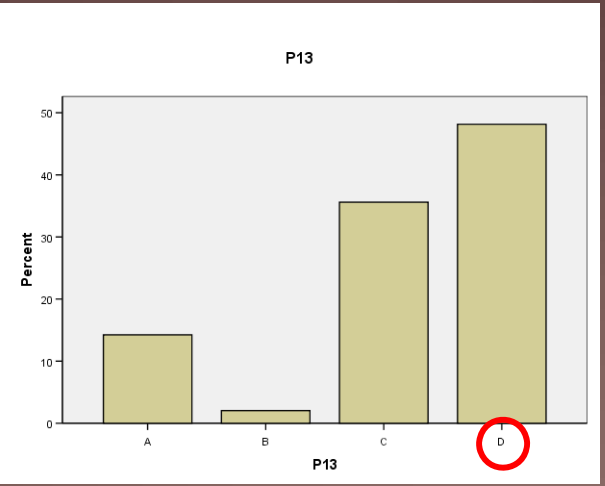
M	1,84 (0,61)
SD	1,462
ID	0,341
α - zadatak	0,882

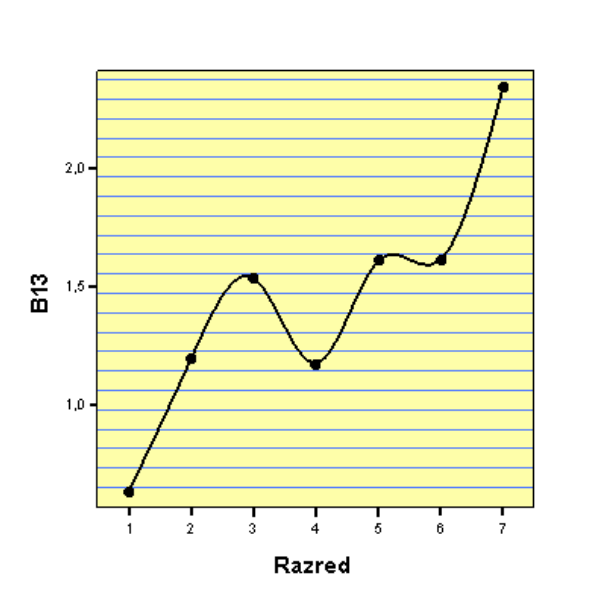




13. Pripravljeno je 100 g vodene otopine natrijeva klorida, ...

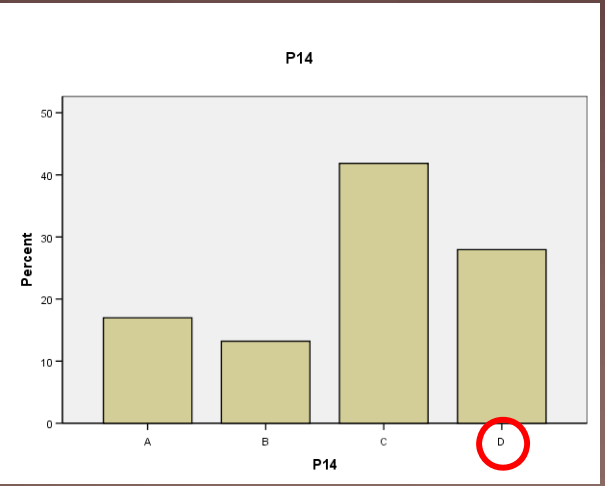
M	1,44 (0,48)
SD	1,500
ID	0,254
α - zadatak	0,883

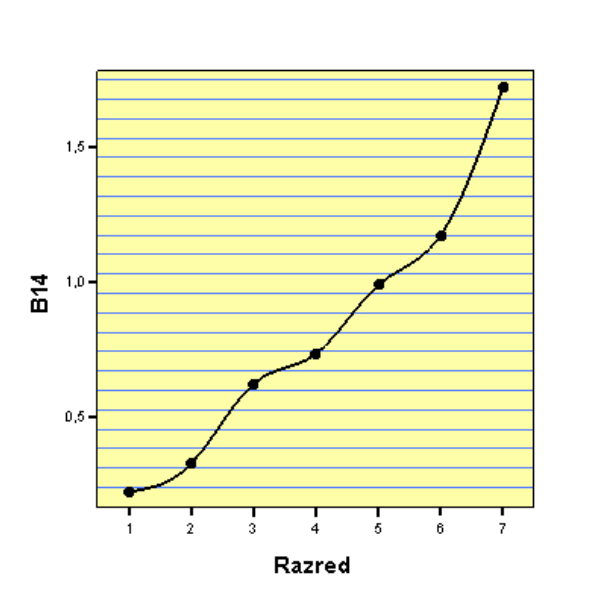




14. Otapanjem 92 g tvari u 100 g vode pripravljena je otopina X....

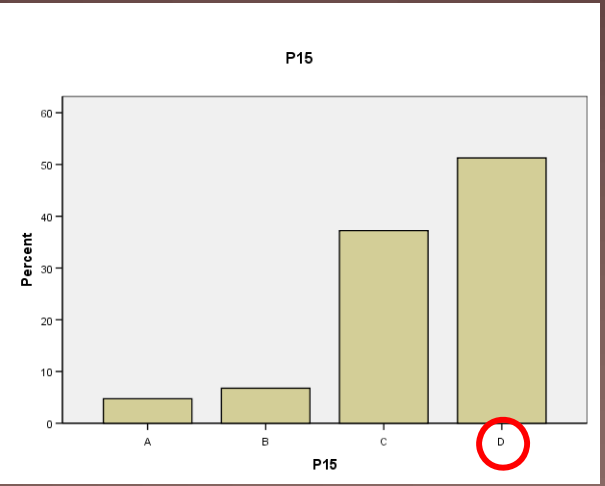
M	0,83 (0,28)
SD	1,341
ID	0,336
α - zadatak	0,882

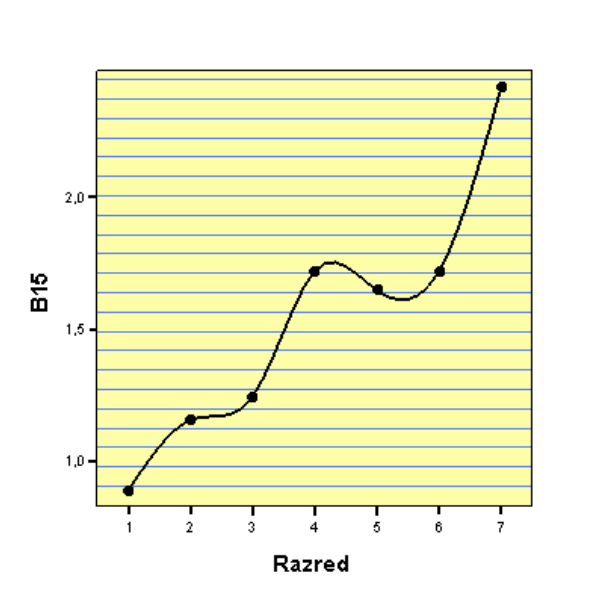




15. Koji maseni omjer izražava sastav 50 %-tne vodene otopine…

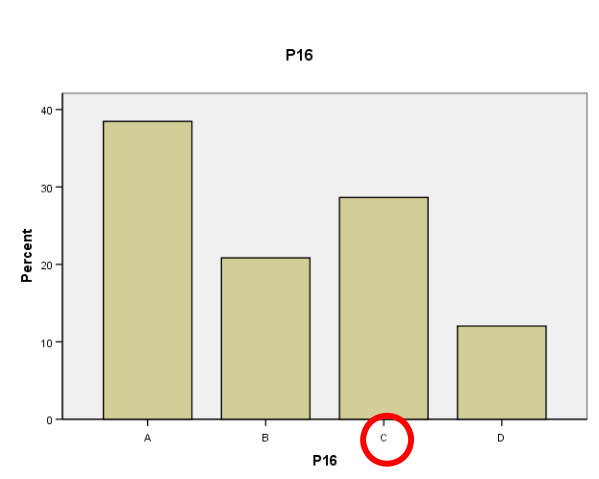
M	1,54 (0,51)
SD	1,501
ID	0,250
α - zadatak	0,883

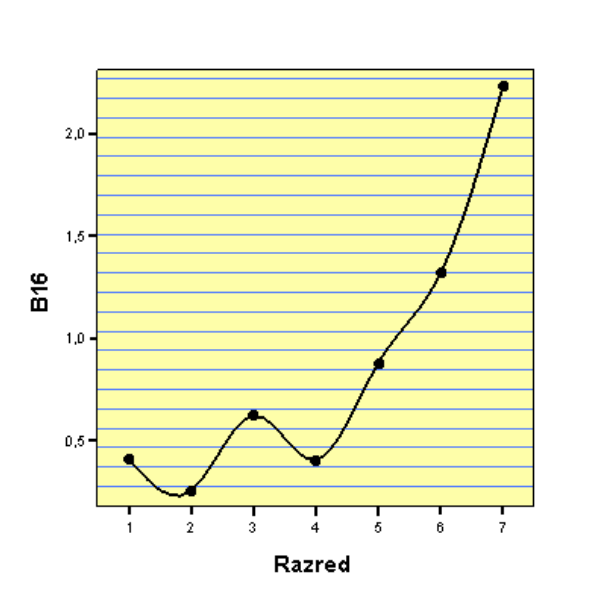




16. Koja će od navedenih tvari otapanjem u vodi …

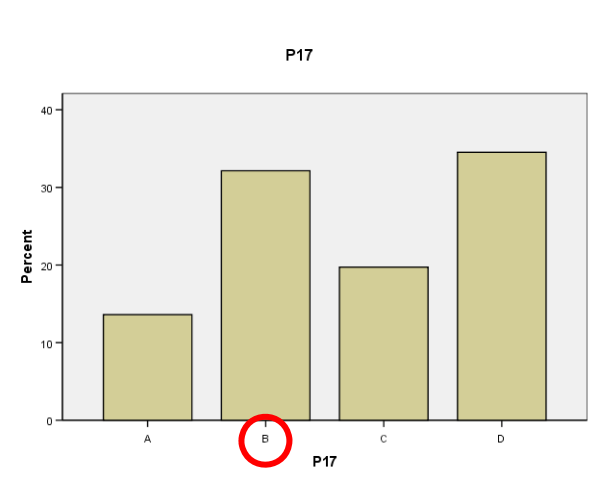
M	0,87 (0,29)
SD	1,364
ID	0,410
α - zadatak	0,881

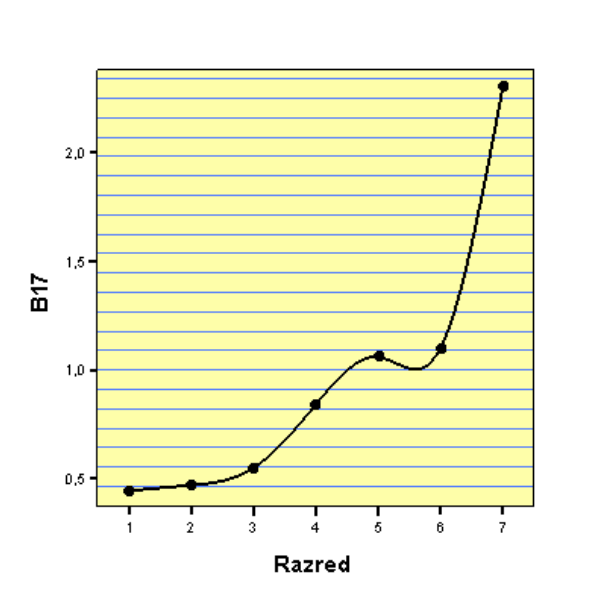




17. Koja će od navedenih tvari, ako ju se pomiješa s vodom …

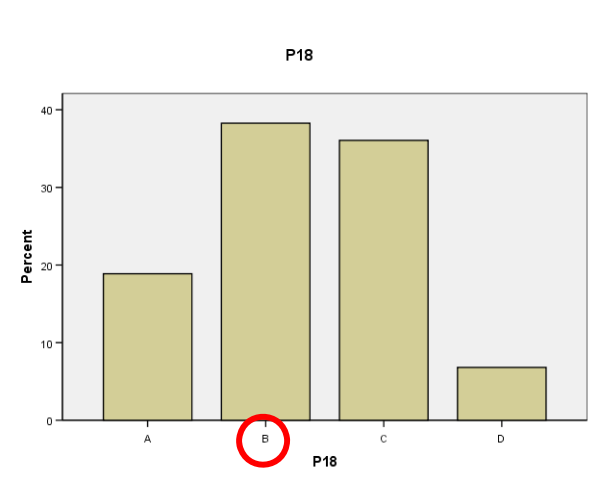
M	0,97 (0,32)
SD	1,403
ID	0,378
α - zadatak	0,881

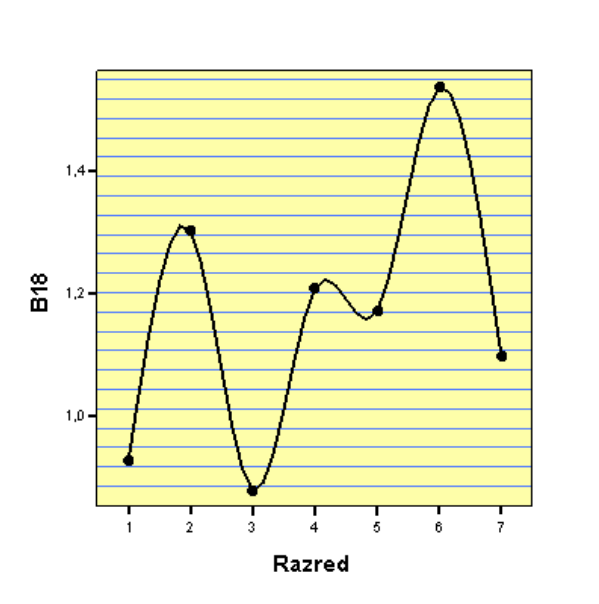




18. Priređena je vodena otopina natrijeva sulfata ...

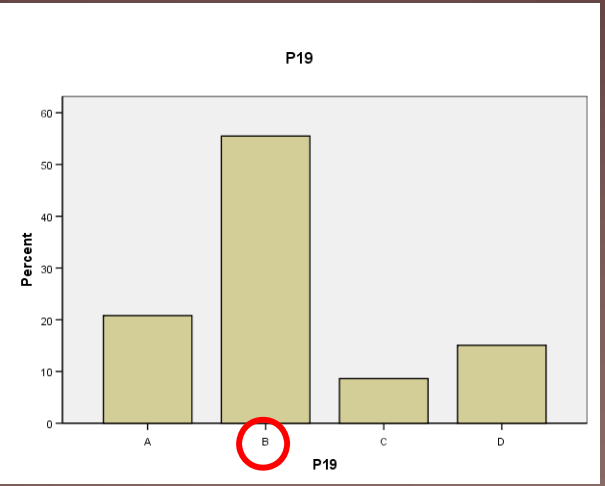
M	1,16 (0,39)
SD	1,462
ID	- 0,001
α - zadatak	0,886

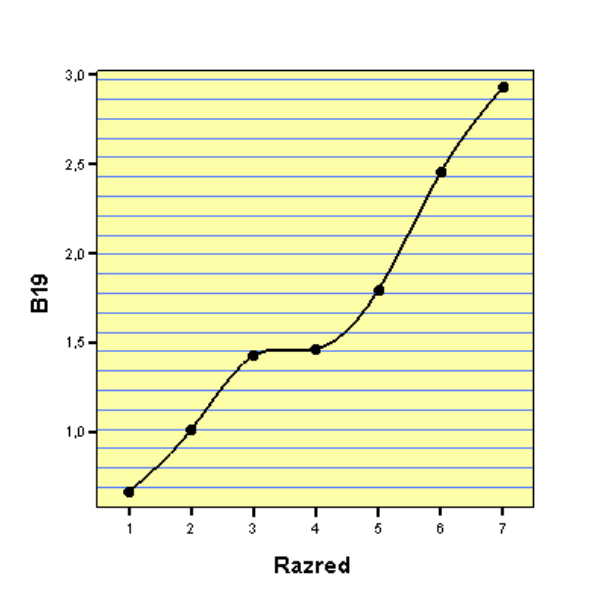




19. Koja će od navedenih tvari, ako ju se pomiješa s vodom ...

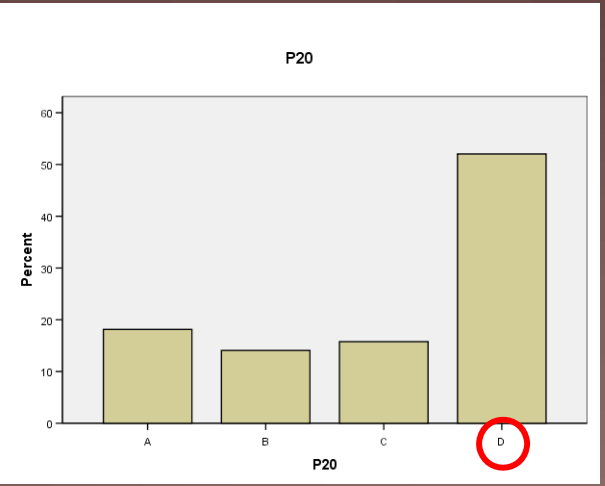
M	1,68 (0,56)
SD	1,491
ID	0,441
α - zadatak	0,880

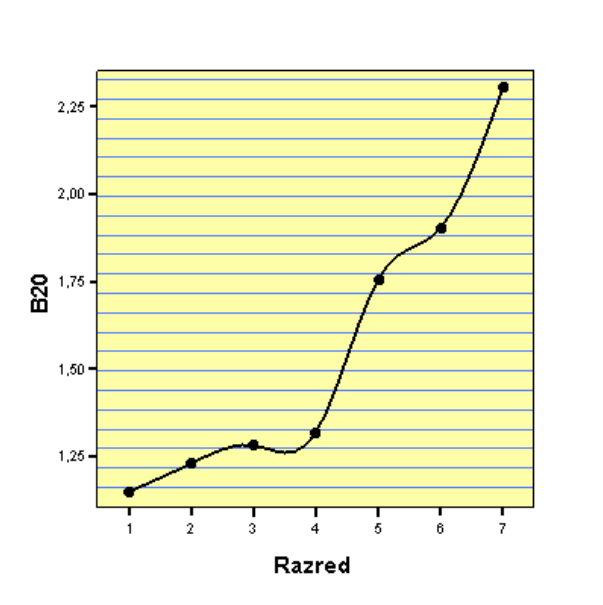




20. Koja je od navedenih jedinki, prema Brønsted-Lowryevoj teoriji …

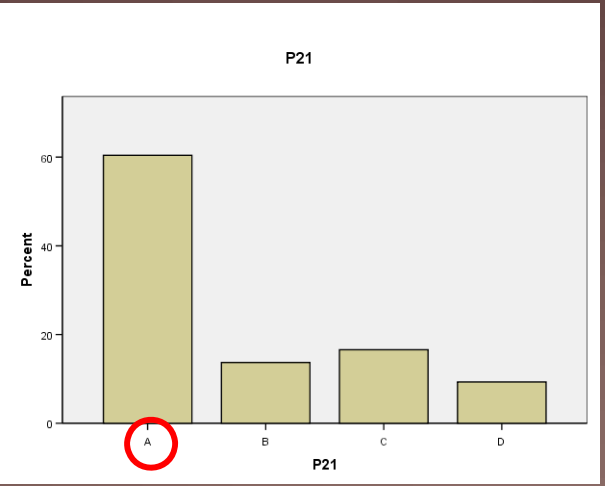
M	1,56 (0,52)
SD	1,500
ID	0,221
α - zadatak	0,883

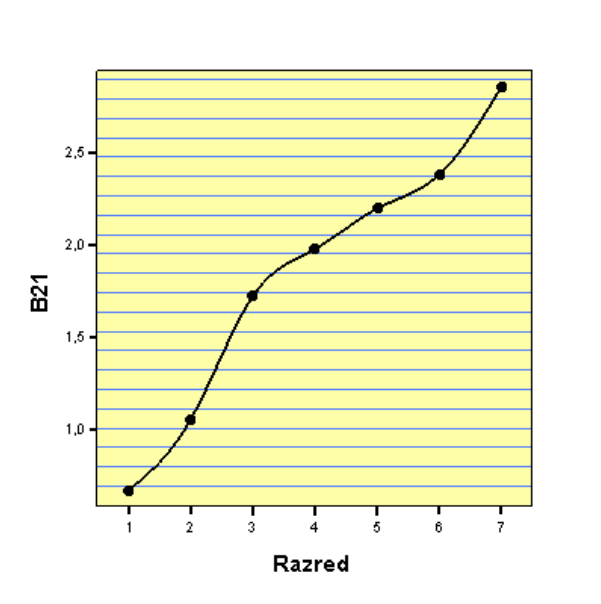




21. Koja je od navedenih jedinki, prema Brønsted-Lowryevoj teoriji …

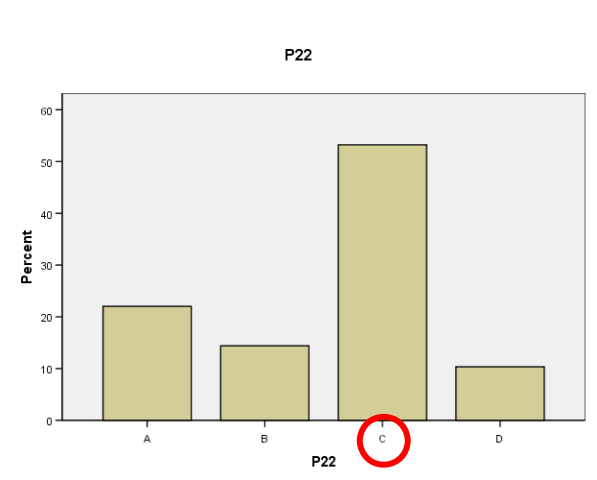
M	1,83 (0,61)
SD	1,464
ID	0,419
α - zadatak	0,881

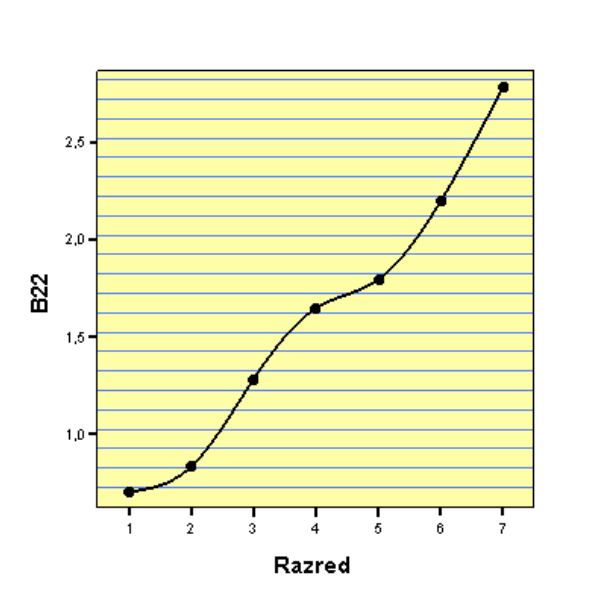




22. Pri 25 °C pH-vrijednost vodene otopine neke tvari je 4 ...

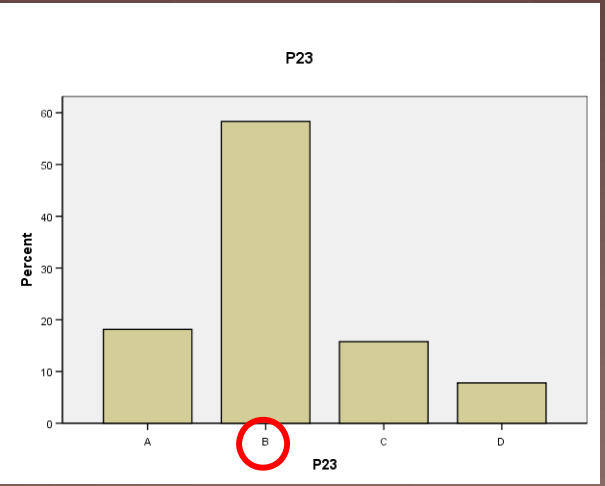
M	1,60 (0,53)
SD	1,498
ID	0,416
α - zadatak	0,881

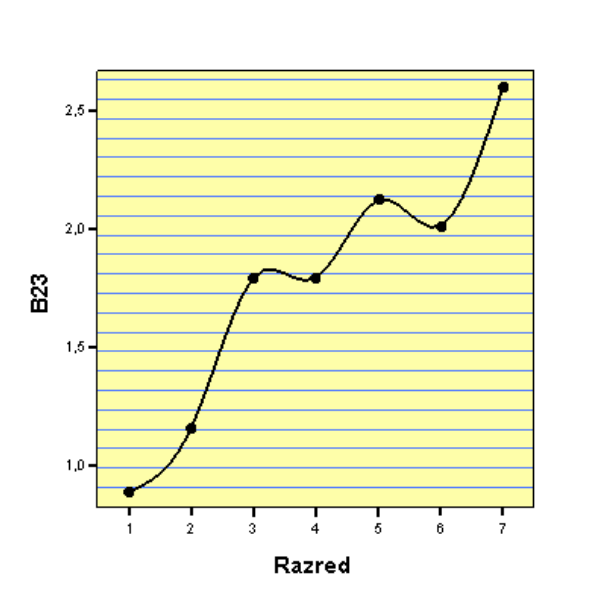




23. Koliki će, pri normalnim uvjetima (*t* = *0* °C, *p* = *101 325 Pa*)..

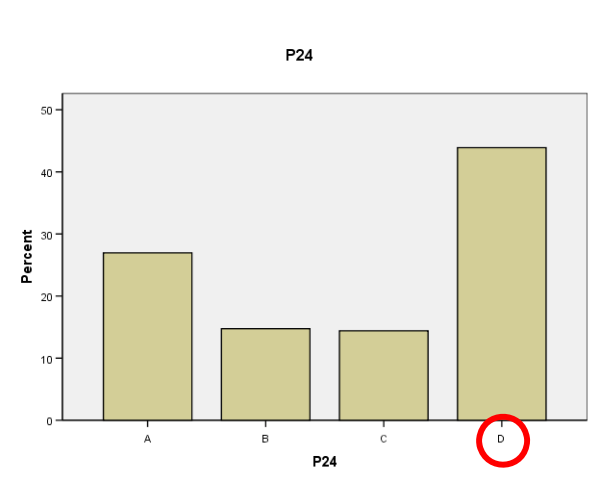
M	1,77 (0,59)
SD	1,477
ID	0,296
α - zadatak	0,882

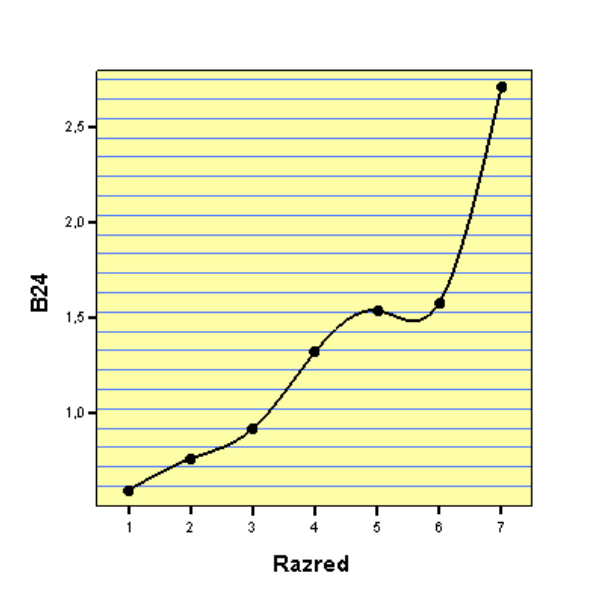




24. Koliki volumen, pri normalnim uvjetima …

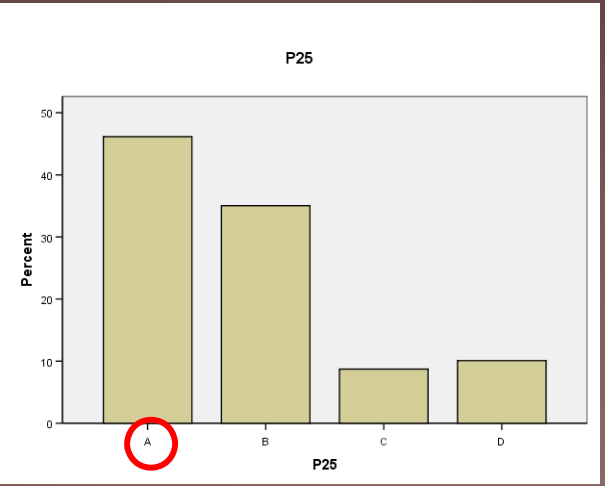
M	1,34 (0,45)
SD	1,493
ID	0,383
α - zadatak	0,881

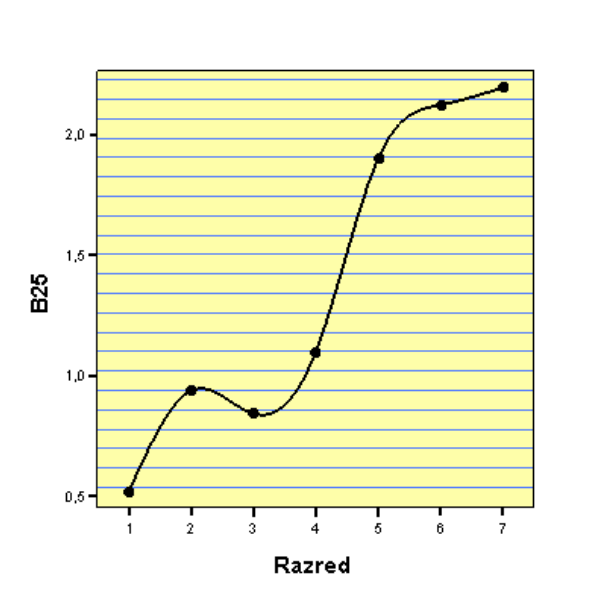




25. Kvantitativnom analizom utvrđeno je da pola mola ...

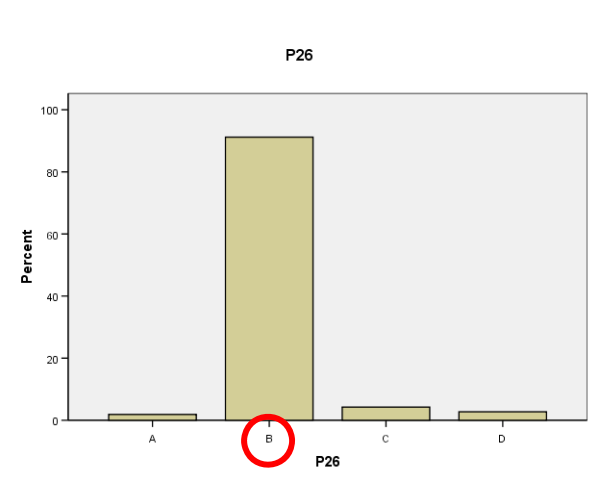
M	1,37 (0,46)
SD	1,496
ID	0,360
α - zadatak	0,881

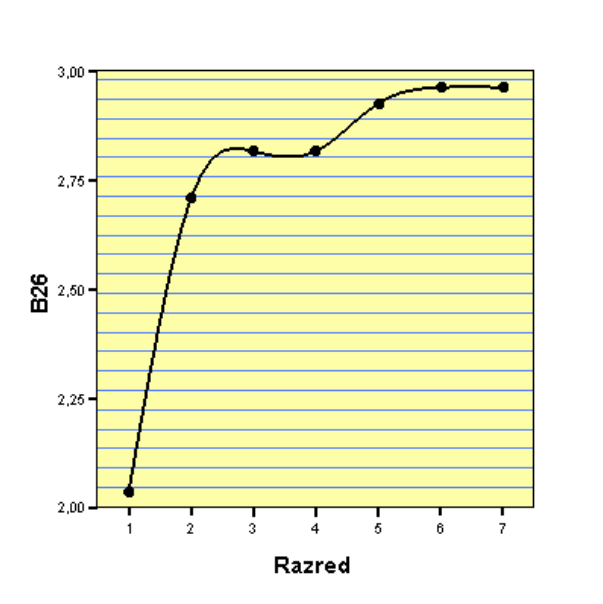




26. Kolika je molarna masa sumporovog(VI) oksida?

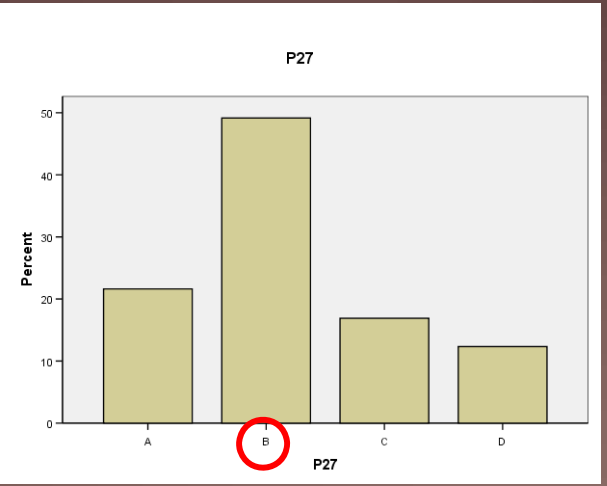
M	2,75 (0,92)
SD	0,831
ID	0,257
α - zadatak	0,883

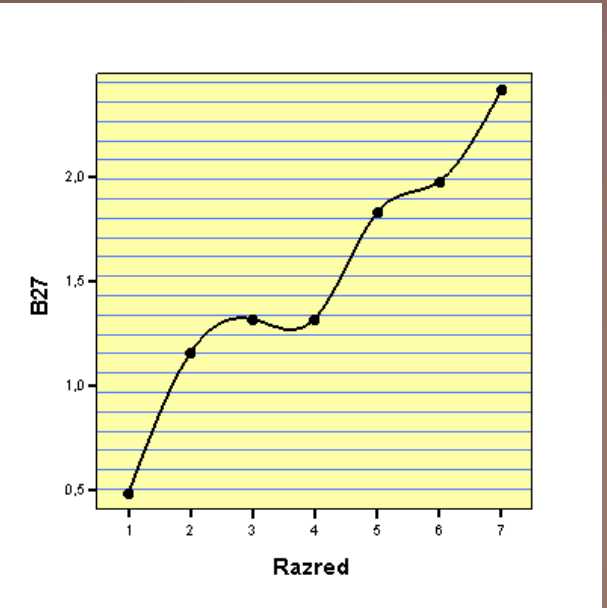




27. Koji od navedenih zapisa predstavlja oksidaciju?

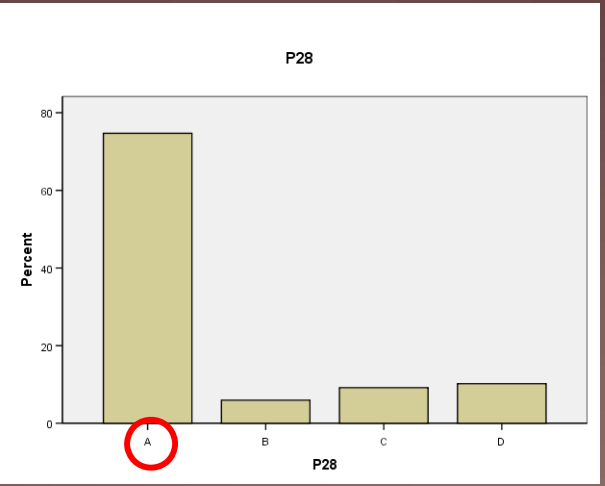
M	1,50 (0,50)
SD	1,501
ID	0,339
α - zadatak	0,882

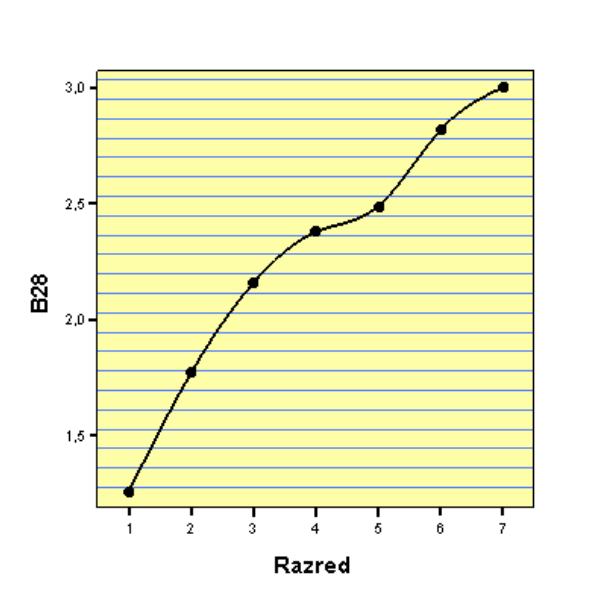




28. Koja od ponuđenih jednadžbi kemijskih reakcija ne opisuje ...

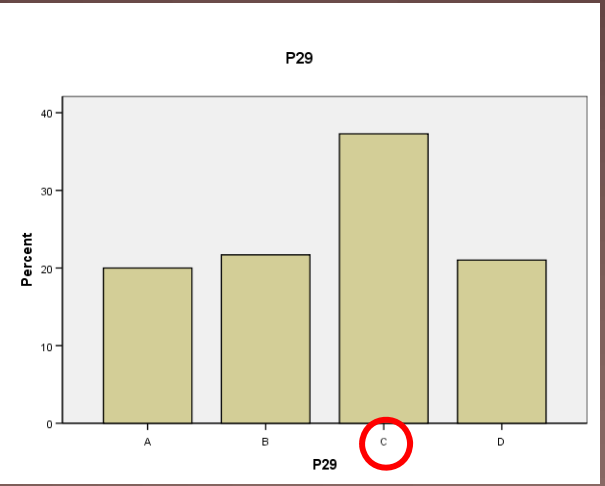
M	2,27 (0,76)
SD	1,289
ID	0,373
α - zadatak	0,881

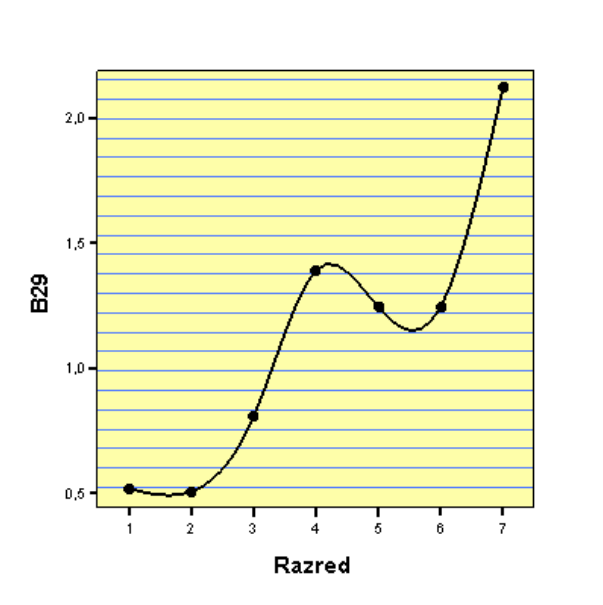




29. Koji je od navedenih oksida redukcijsko sredstvo?

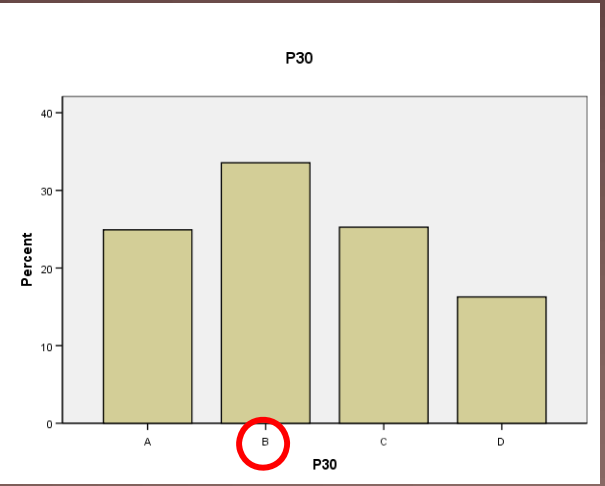
M	1,12 (0,37)
SD	1,452
ID	0,307
α - zadatak	0,882

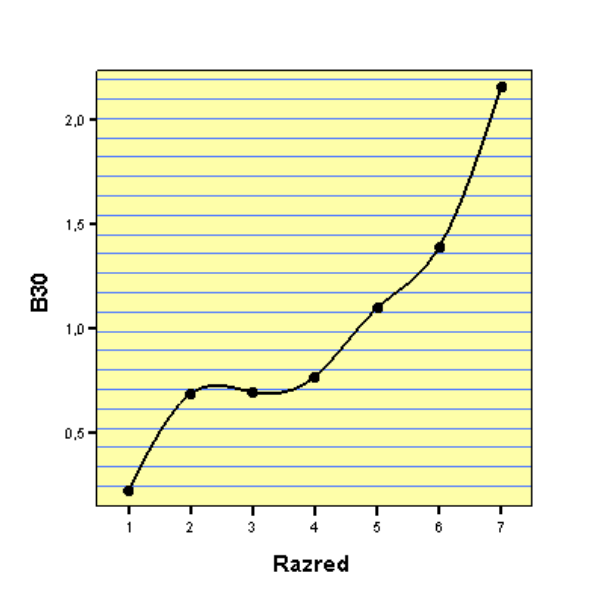




30. Koja se od navedenih promjena događa na anodi tijekom elektrolize

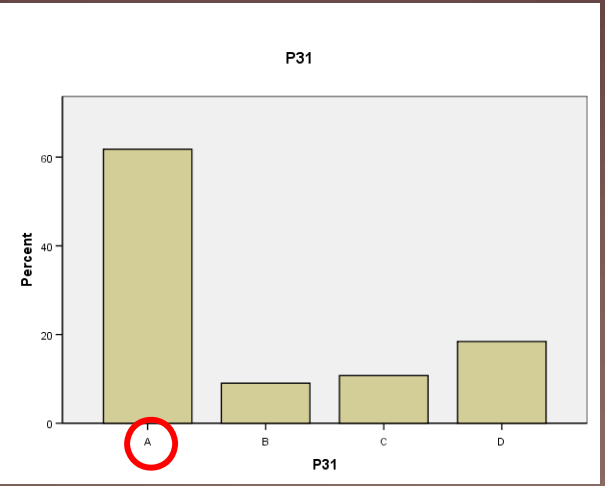
M	1,00 (0,33)
SD	1,417
ID	0,372
α - zadatak	0,881

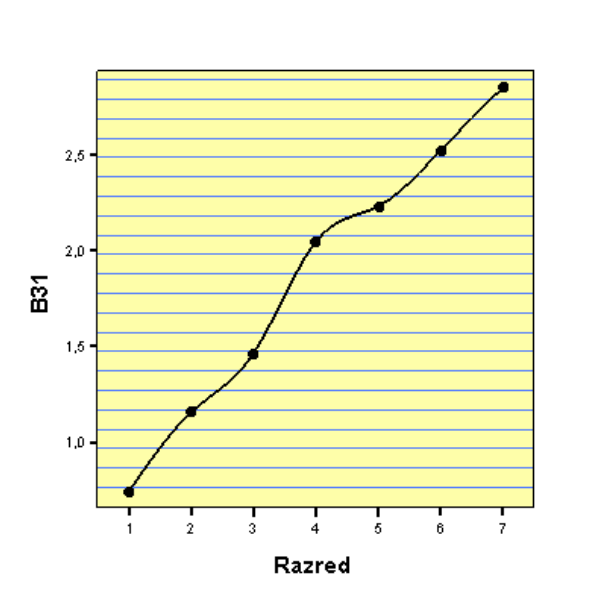




31. U kojoj su od navedenih tvari, u tekućem agregacijskome stanju ...

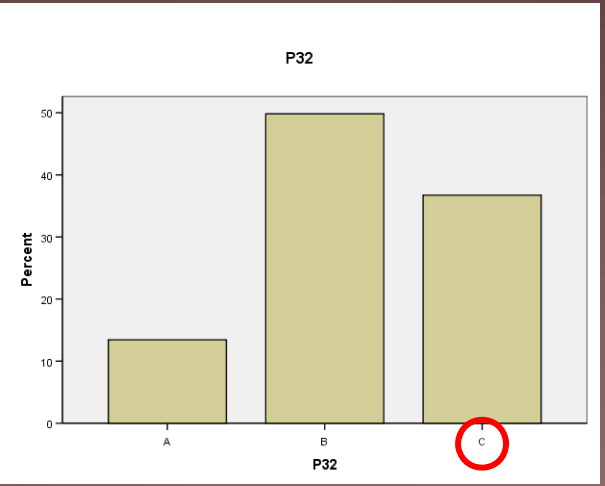
M	1,86 (0,62)
SD	1,457
ID	0,416
α - zadatak	0,881

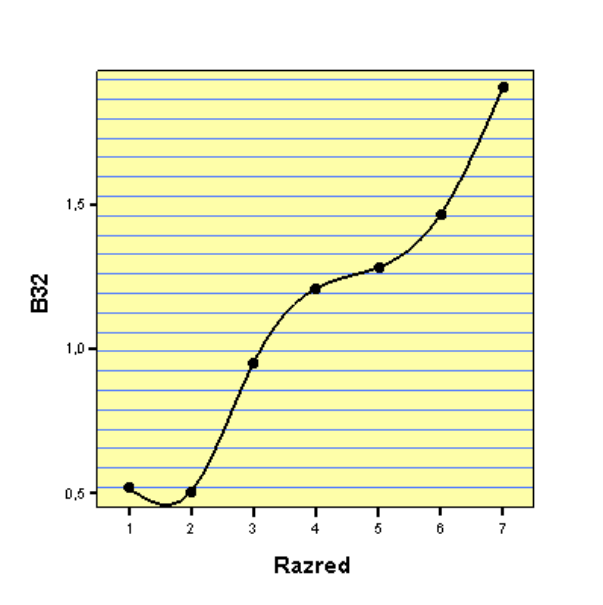




32. Pri istoj temperaturi vodena otopina kiseline HAx ...

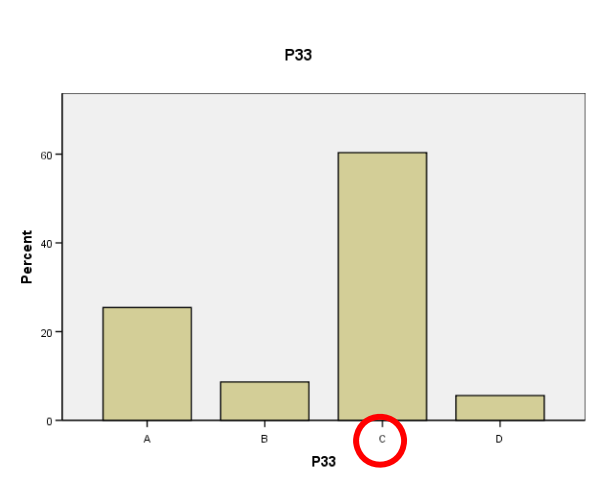
M	1,12 (0,37)
SD	1,452
ID	0,275
α - zadatak	0,883

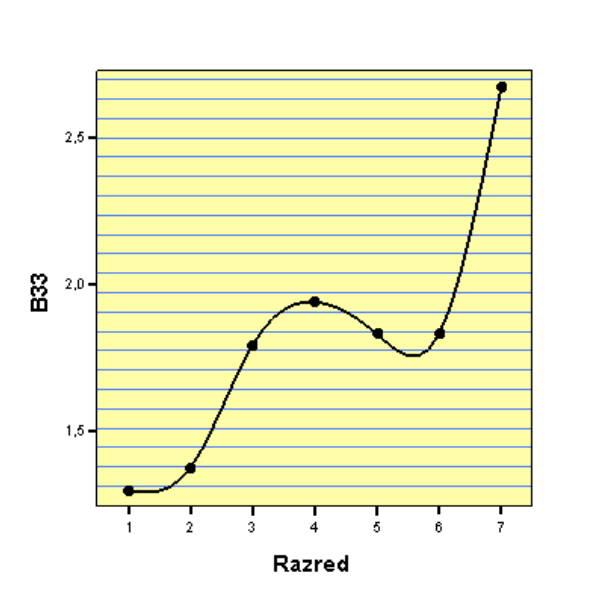




33. Miješanjem vodenih otopina barijeva klorida i natrijeva sulfata...

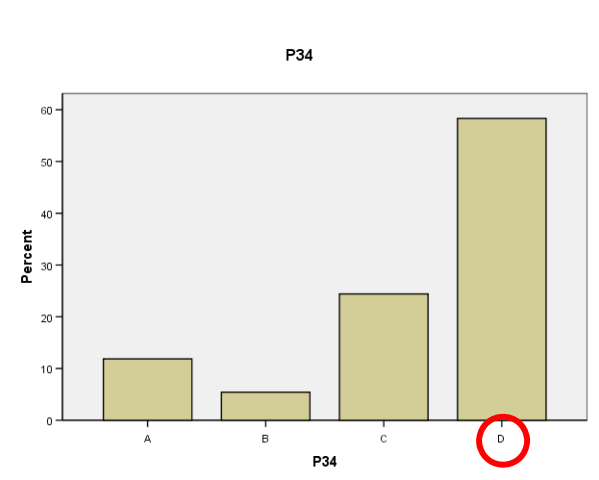
M	1,82 (0,61)
SD	1,467
ID	0,230
α - zadatak	0,883

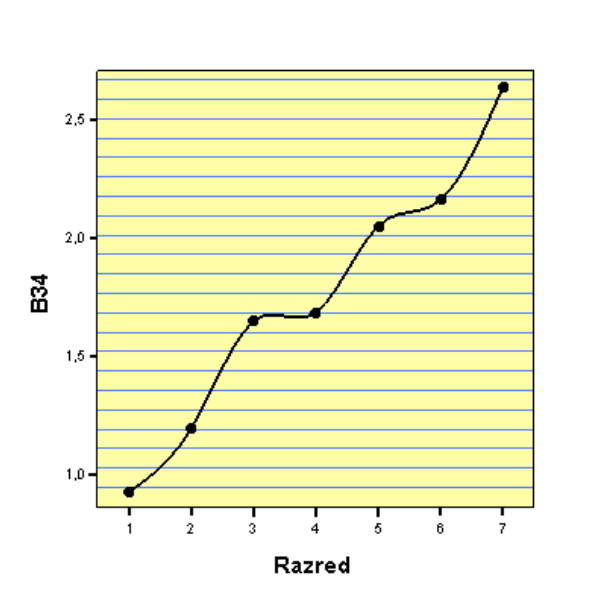




34. Konstante disocijacije kiselina HAx i HAy imaju ove vrijednosti …

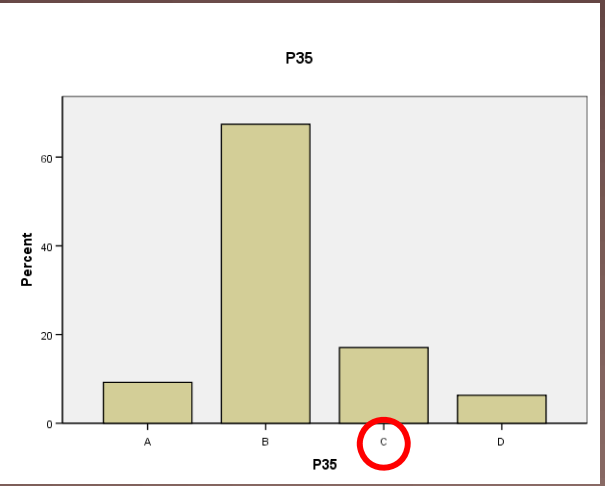
M	1,76 (0,59)
SD	1,479
ID	0,314
α - zadatak	0,882

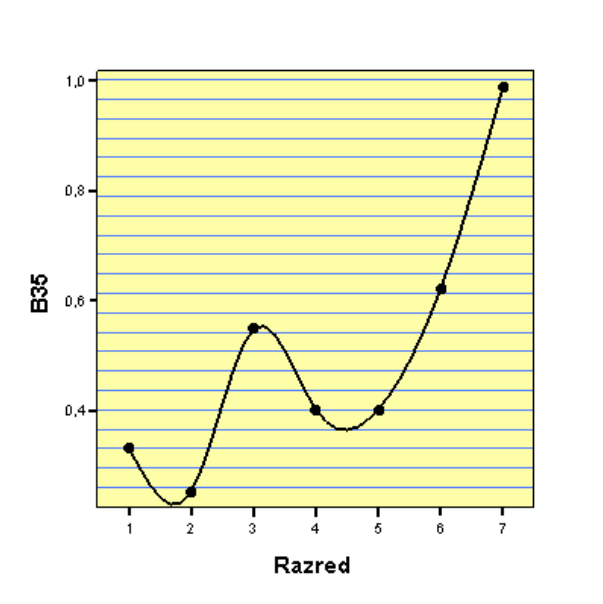




35. Po 400 mL vode uliveno je u dvije odmjerne tikvice ...

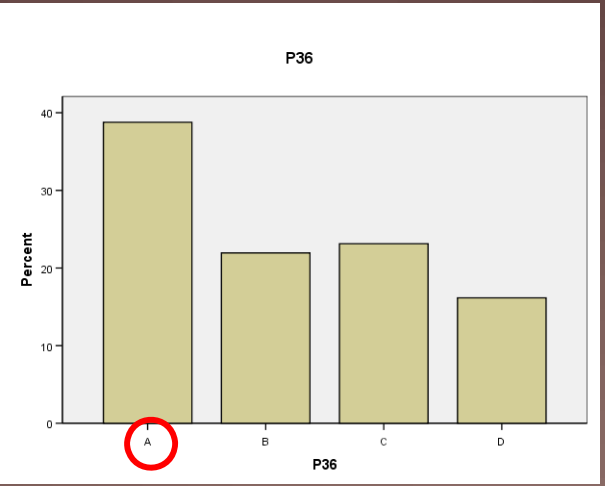
M	0,51 (0,17)
SD	1,125
ID	0,153
α - zadatak	0,884

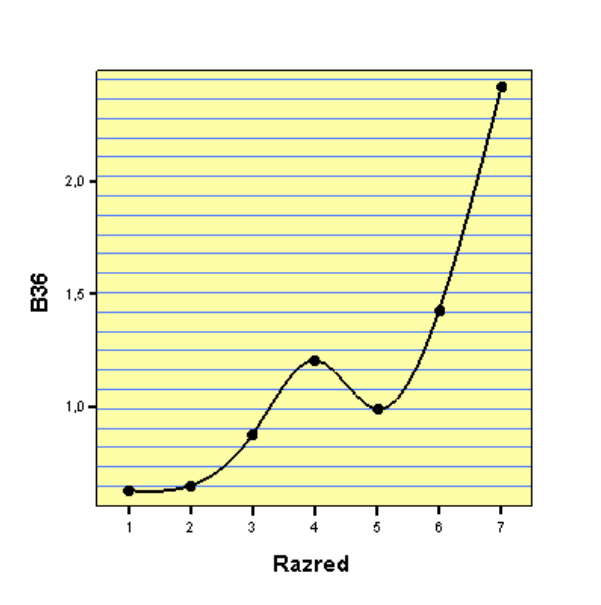




36. Spojevi su navedeni ovim redom: NaBr, NaCl, MgO, NaI ...

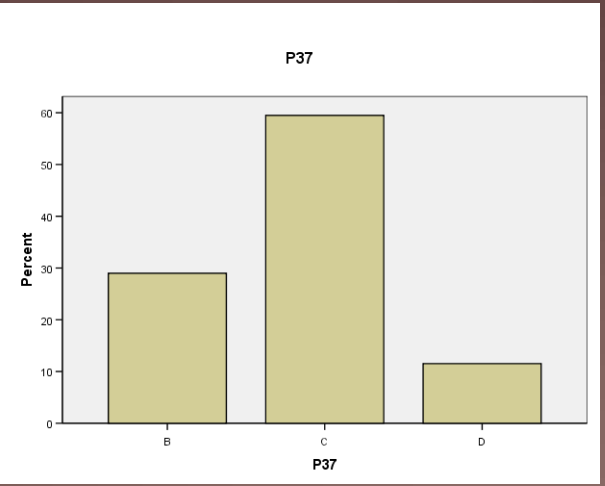
M	1,17 (0,39)
SD	1,465
ID	0,345
α - zadatak	0,882

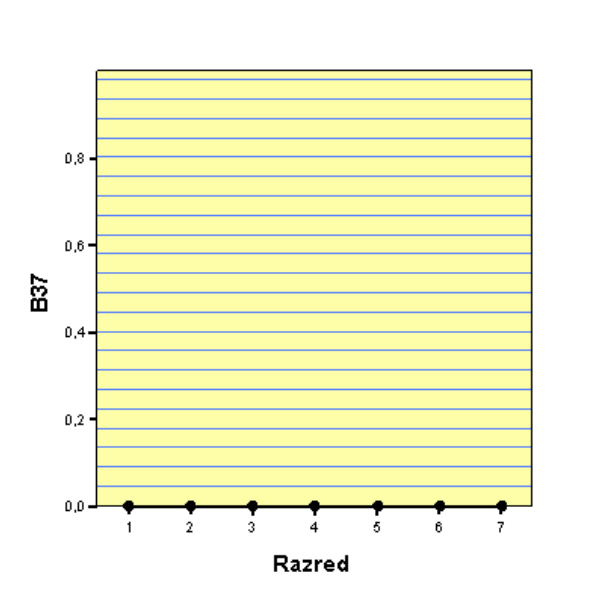




37. Što je od navedenoga u prikazanoj kemijskoj reakciji ...

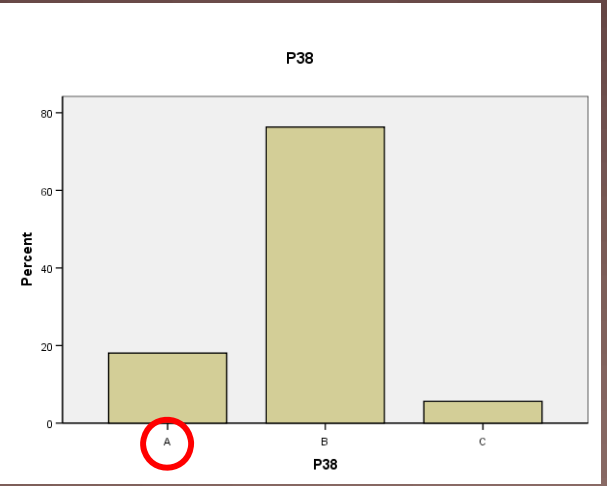
M	0,00
SD	0,000
ID	-
α – zadatak	-

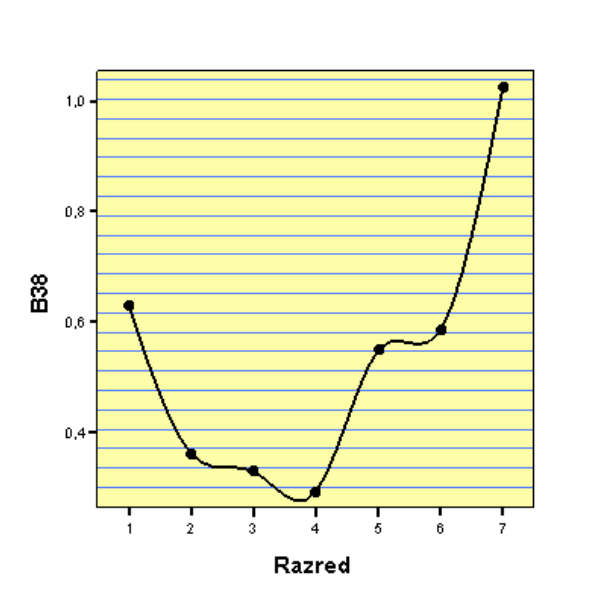




38. U laboratorijsku čašu nasuto je, naizmjence, nekoliko slojeva ...

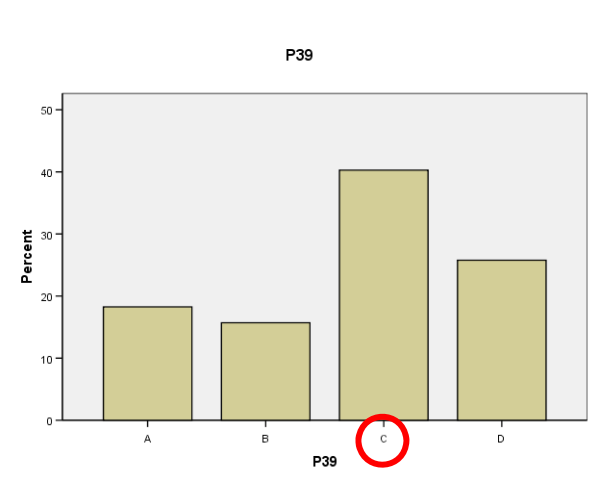
M	0,54 (0,18)
SD	1,152
ID	0,115
α - zadatak	0,884

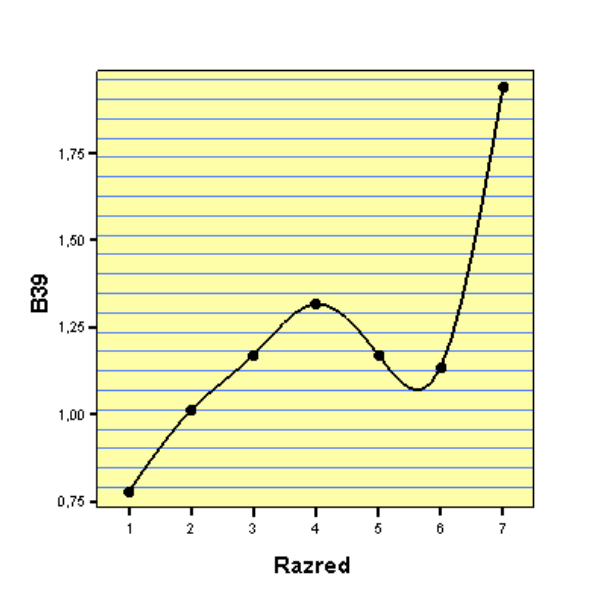




39. Spojevi su navedeni ovim redom: NaI, NaBr, Na2O, NaCl …

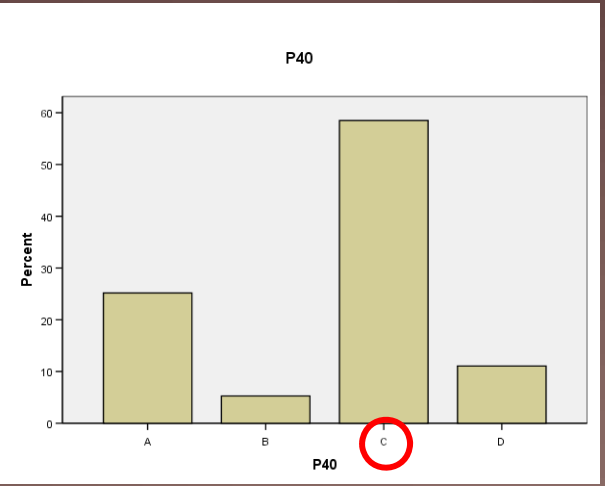
M	1,22 (0,41)
SD	1,474
ID	0,188
α - zadatak	0,884

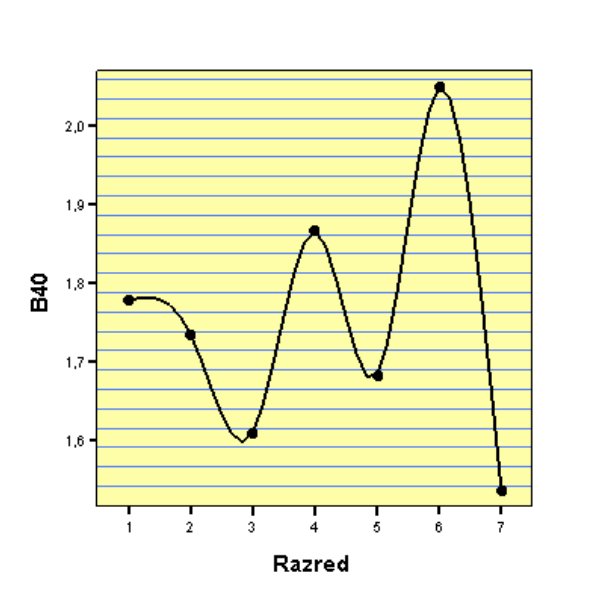




40. U trima epruvetama priređene su otopine triju tvari ...

M	1,75 (0,58)
SD	1,480
ID	- 0,065
α - zadatak	0,887



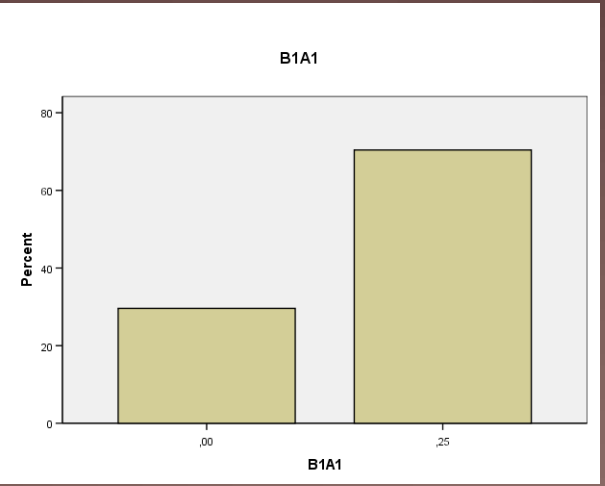


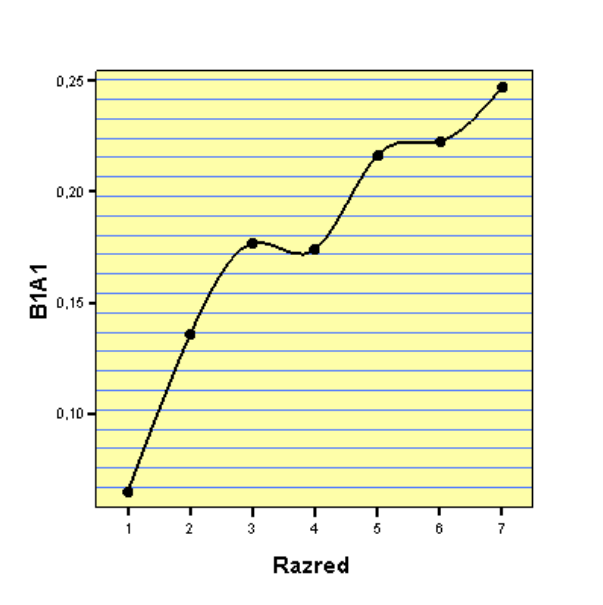
KEMIJA

II DIO ISPITA

1.A1 Dovršite sljedeću tablicu.

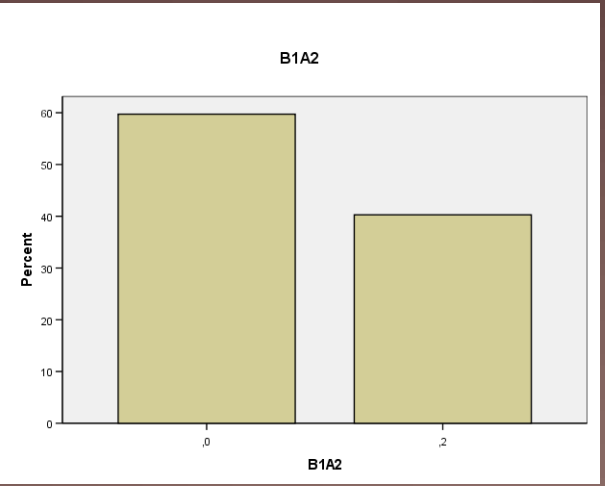
M	0,18 (0,72)
SD	0,114
ID	0,453
α - zadatak	0,883

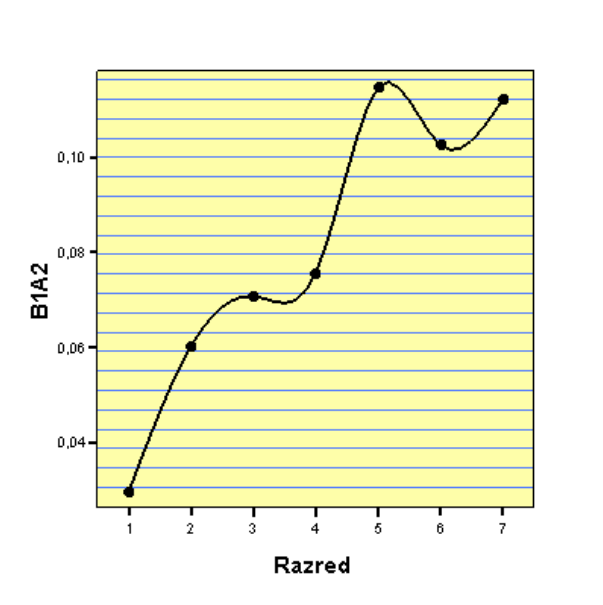




1.A2 Dovršite sljedeću tablicu.

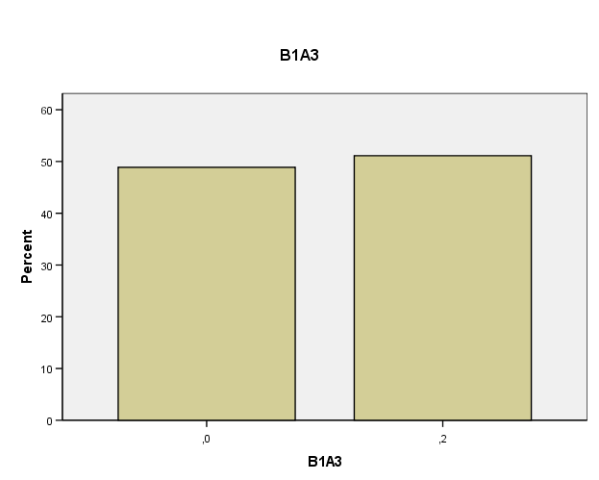
M	0,08 (0,40)
SD	0,098
ID	0,266
α - zadatak	0,884

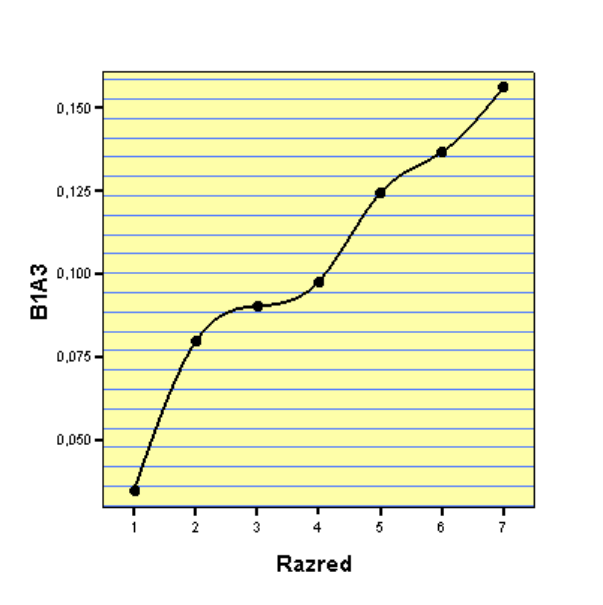




1.A3 Dovršite sljedeću tablicu.

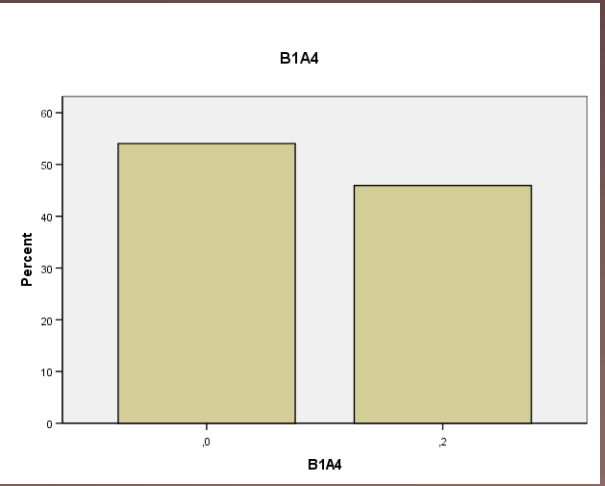
M	0,10 (0,50)
SD	0,100
ID	0,356
α - zadatak	0,884

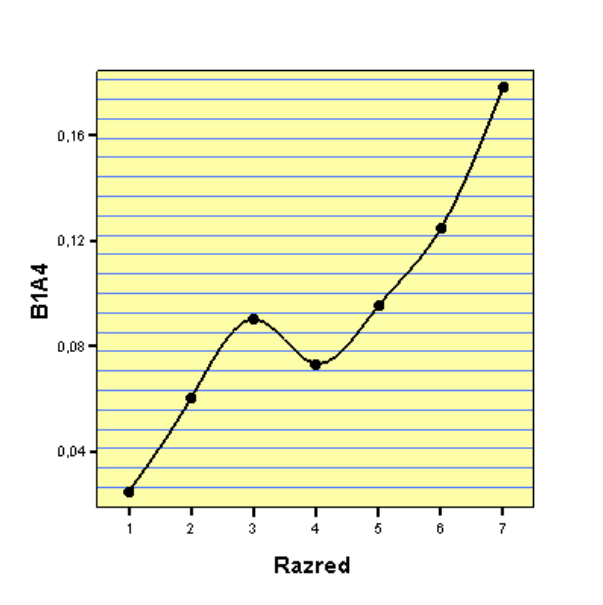




1.A4 Dovršite sljedeću tablicu.

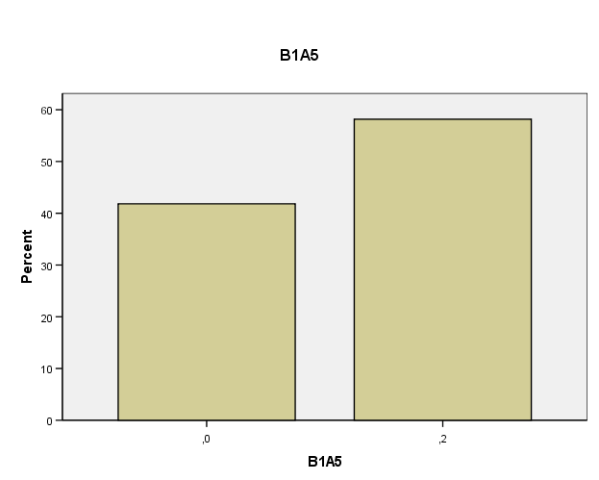
M	0,09 (0,45)
SD	0,100
ID	0,434
α - zadatak	0,883

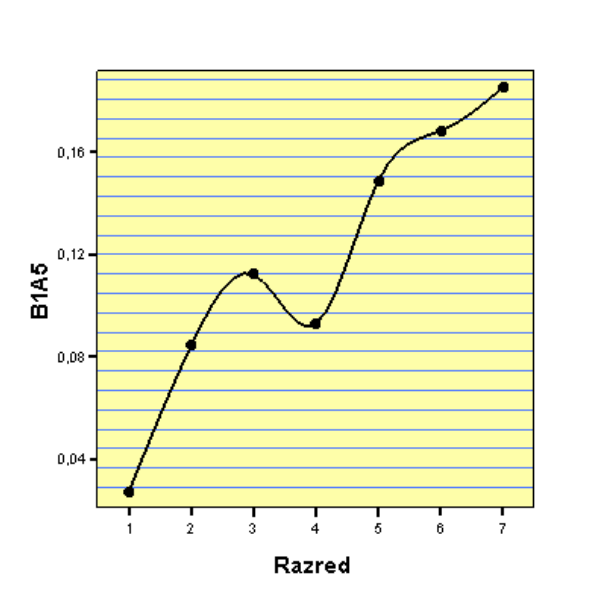




1.A5 Dovršite sljedeću tablicu.

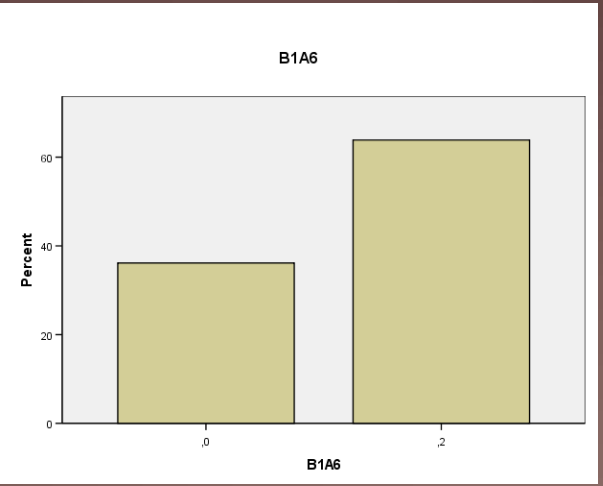
M	0,12 (0,60)
SD	0,099
ID	0,471
α - zadatak	0,883

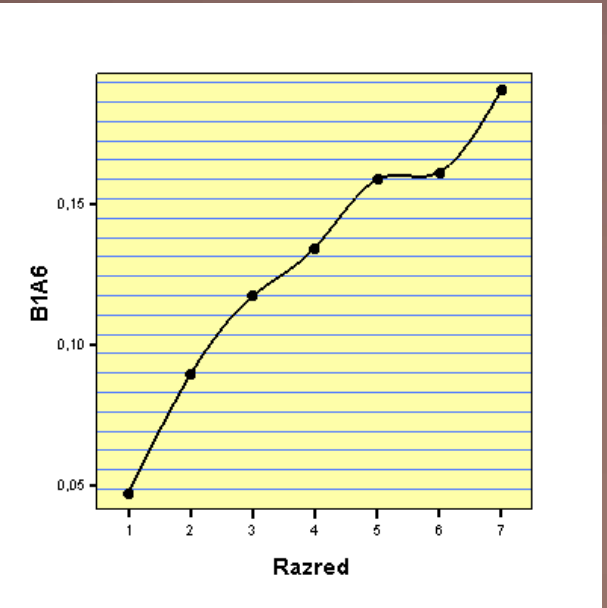




1.A6 Dovršite sljedeću tablicu.

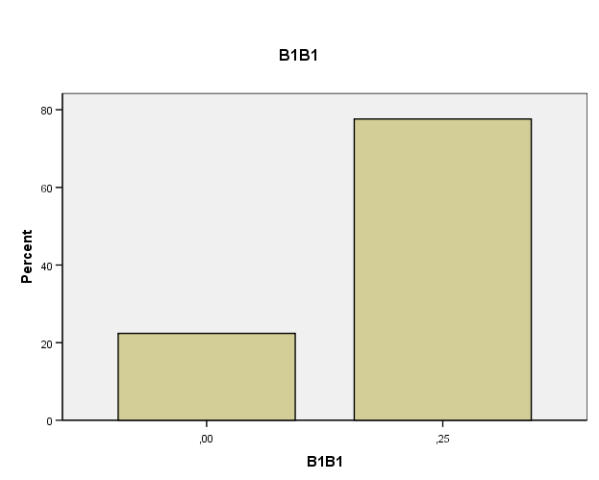
M	0,13 (0,65)
SD	0,096
ID	0,437
α - zadatak	0,883

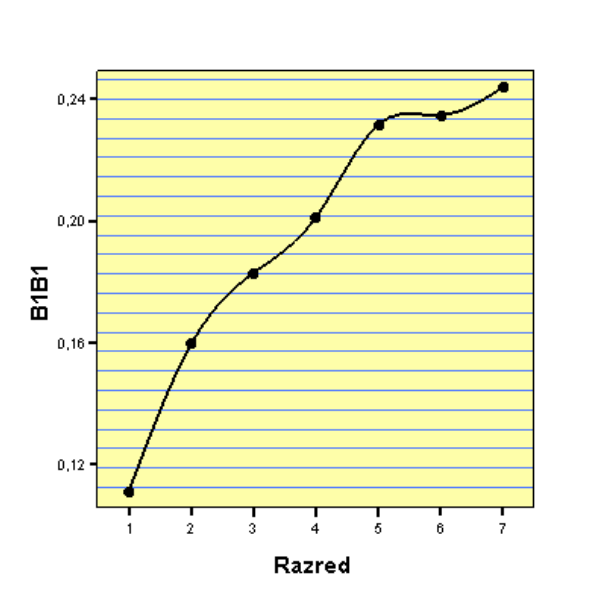




1.B1 Dovršite sljedeću tablicu.

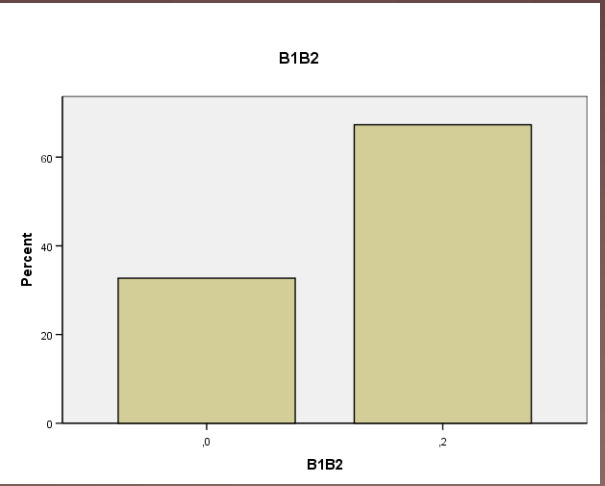
M	0,20 (0,80)
SD	0,104
ID	0,376
α - zadatak	0,884

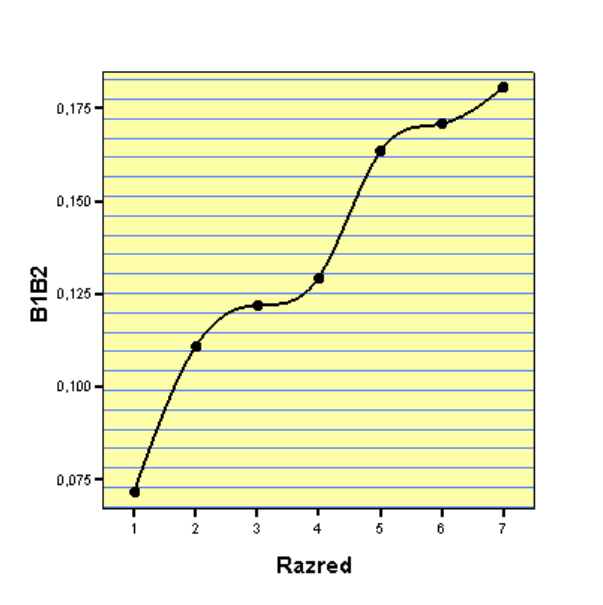




1.B2 Dovršite sljedeću tablicu.

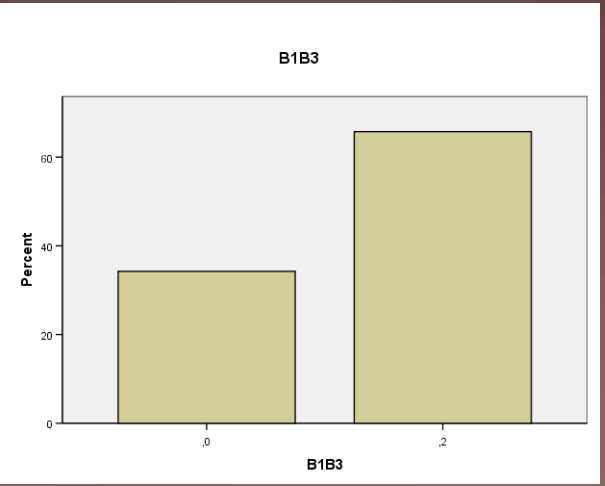
M	0,14 (0,70)
SD	0,094
ID	0,346
α - zadatak	0,884

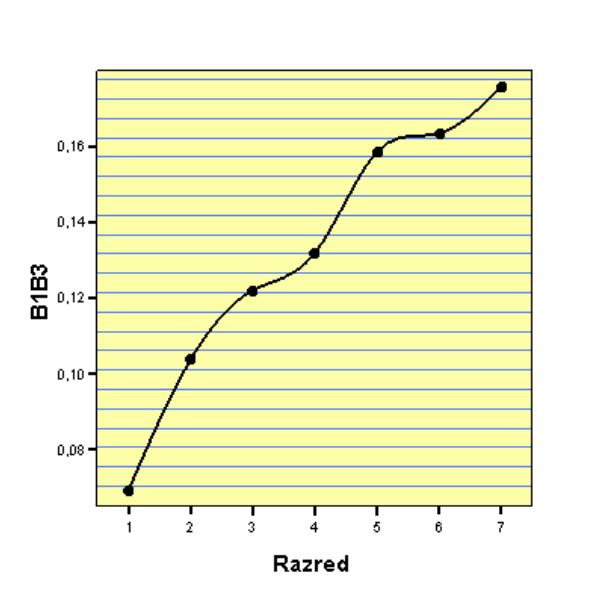




1.B3 Dovršite sljedeću tablicu.

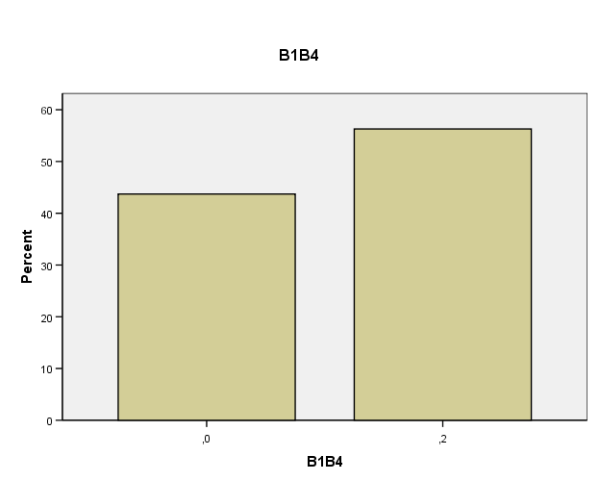
M	0,13 (0,65)
SD	0,095
ID	0,325
α - zadatak	0,884

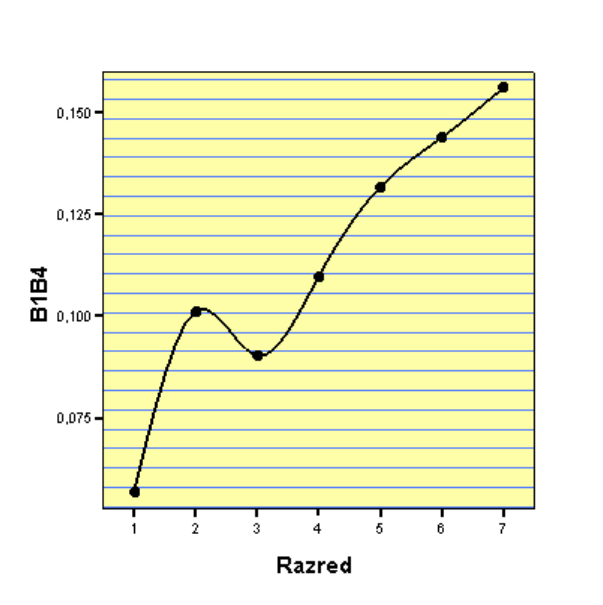




1.B4 Dovršite sljedeću tablicu.

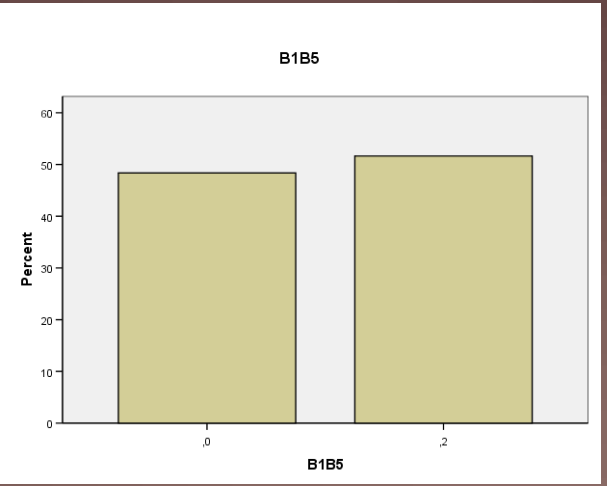
M	0,11 (0,55)
SD	0,099
ID	0,297
α - zadatak	0,884

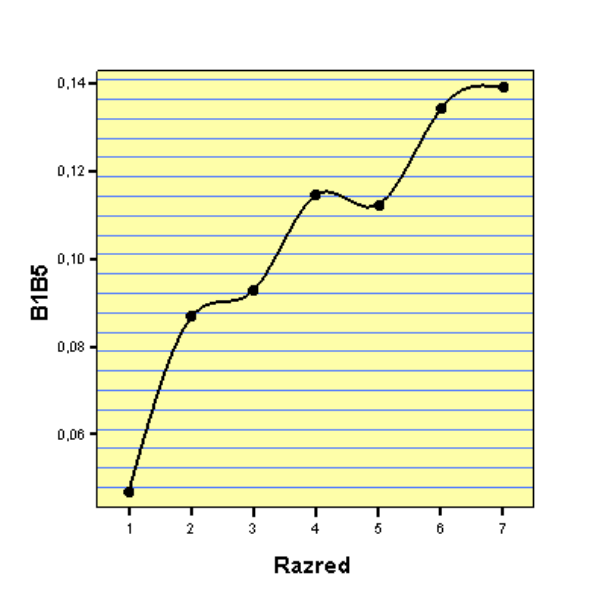




1.B5 Dovršite sljedeću tablicu.

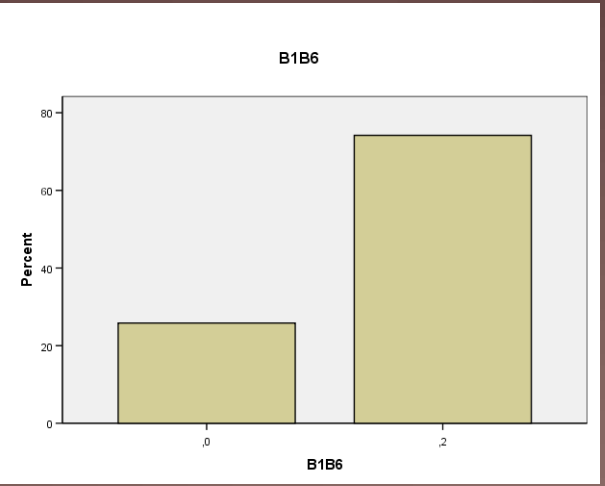
M	0,10 (0,50)
SD	0,100
ID	0,244
α - zadatak	0,884

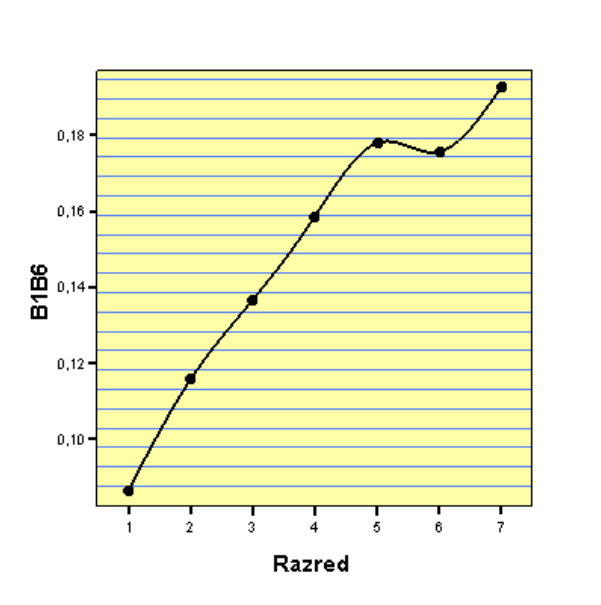




1.B6 Dovršite sljedeću tablicu.

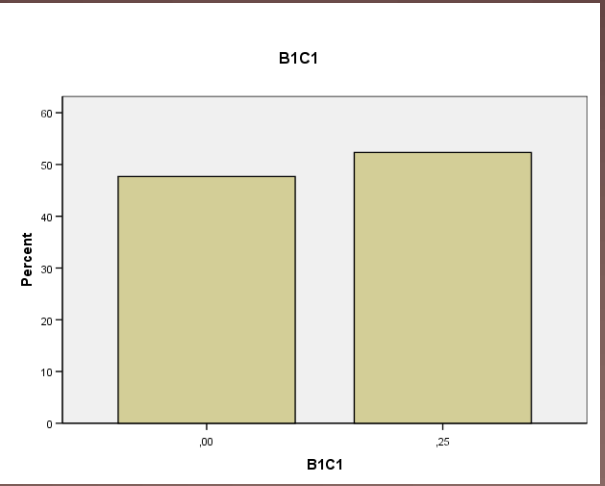
M	0,15 (0,75)
SD	0,087
ID	0,363
α - zadatak	0,884

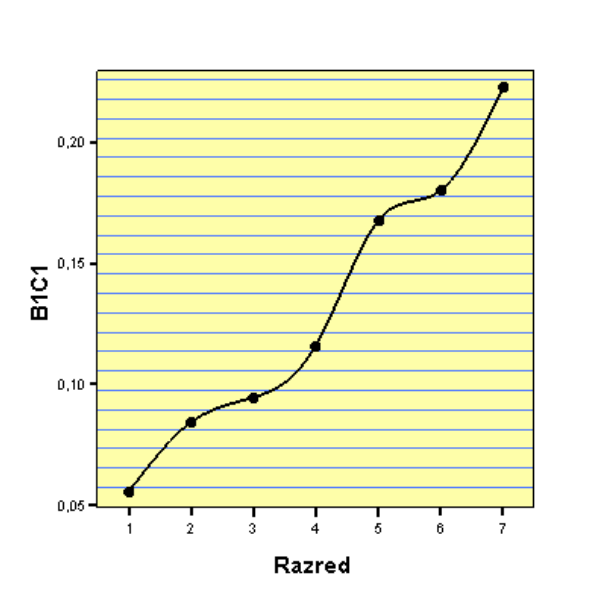




1.C1 Dovršite sljedeću tablicu.

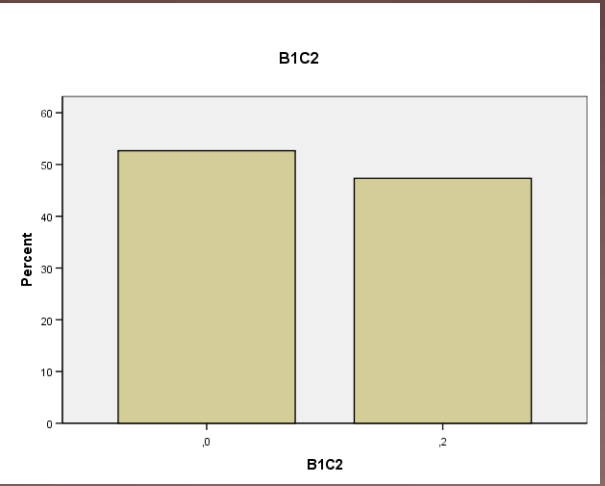
M	0,13 (0,52)
SD	0,125
ID	0,430
α - zadatak	0,883

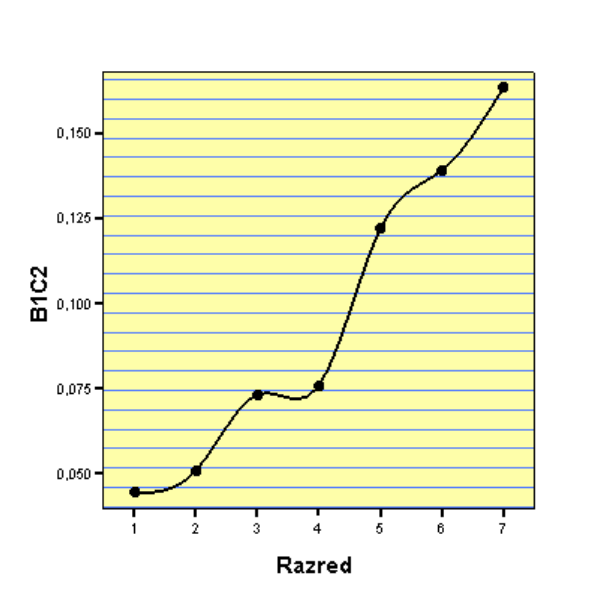




1.C2 Dovršite sljedeću tablicu.

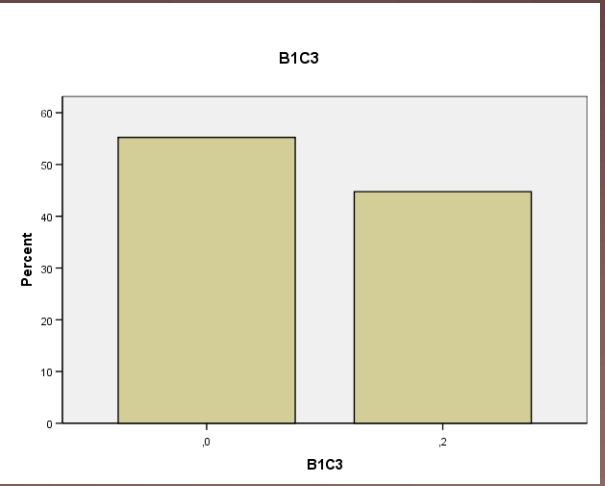
M	0,10 (0,50)
SD	0,100
ID	0,410
α - zadatak	0,884

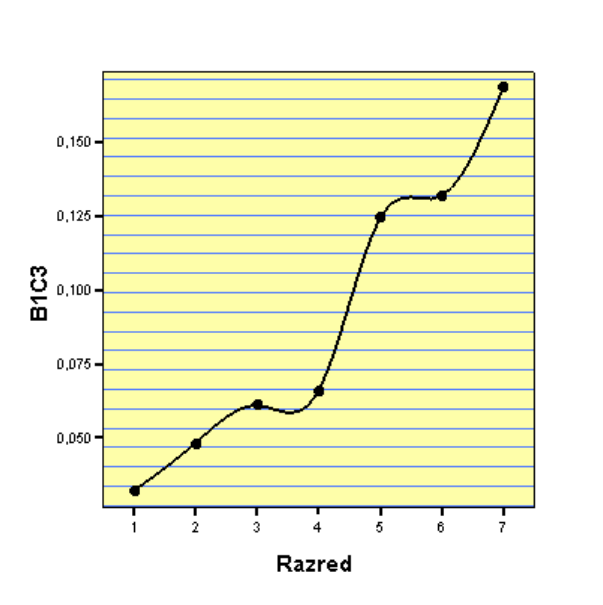




1.C3 Dovršite sljedeću tablicu.

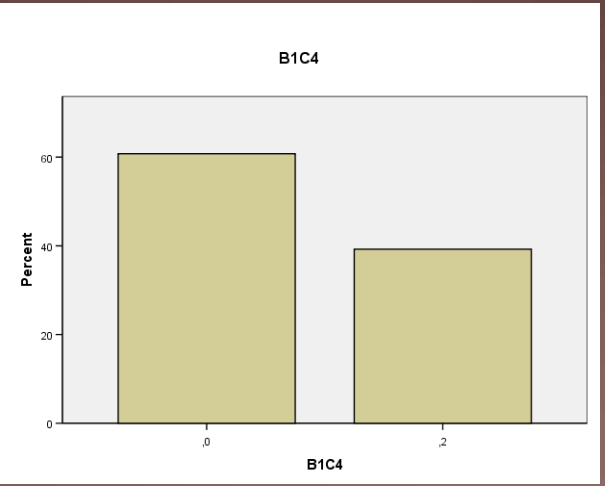
M	0,09 (0,45)
SD	0,100
ID	0,462
α - zadatak	0,883

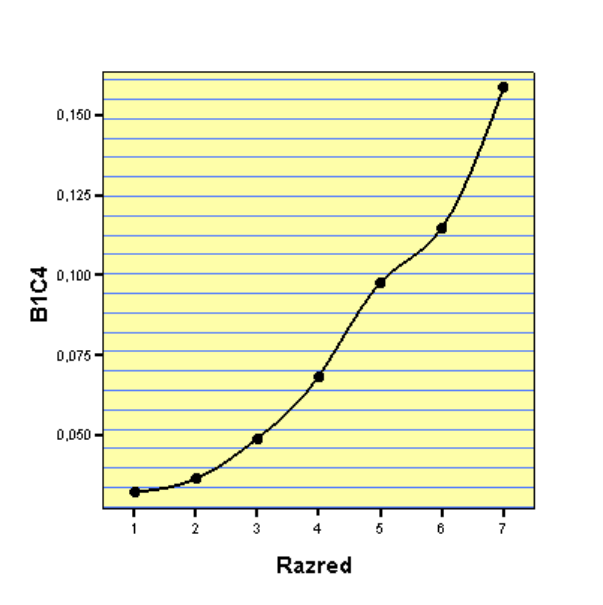




1.C4 Dovršite sljedeću tablicu.

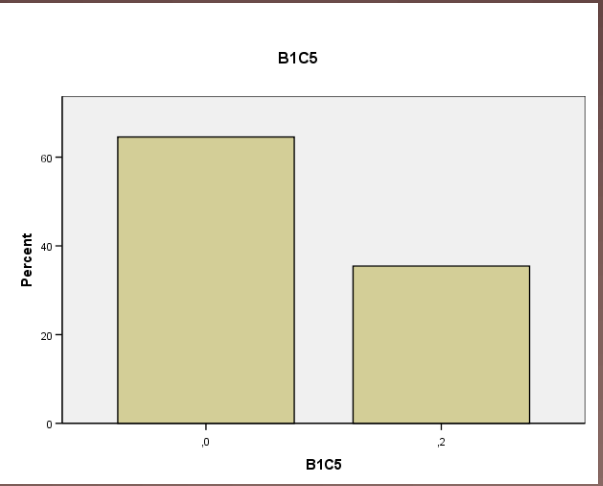
M	0,08 (0,40)
SD	0,098
ID	0,427
α - zadatak	0,883

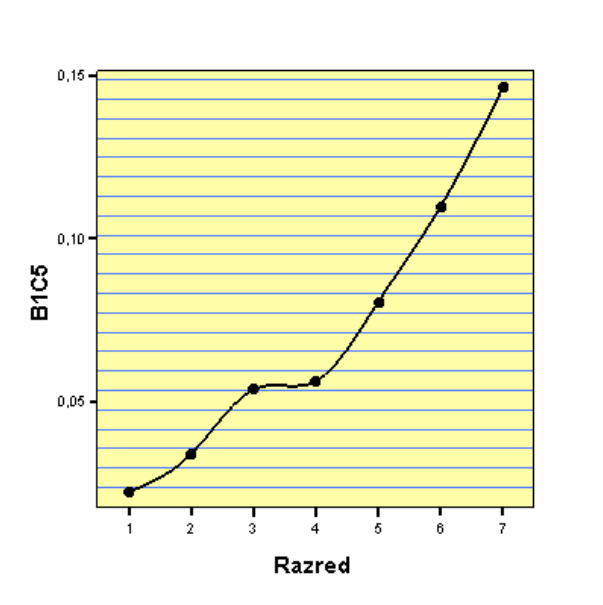




1.C5 Dovršite sljedeću tablicu.

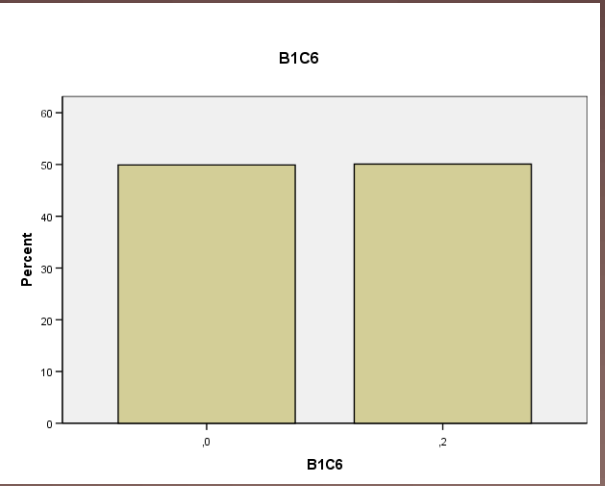
M	0,07 (0,35)
SD	0,096
ID	0,420
α - zadatak	0,884

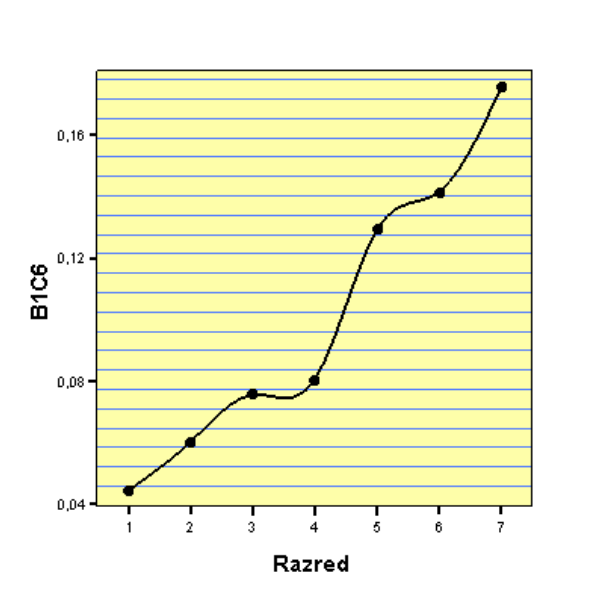




1.C6 Dovršite sljedeću tablicu.

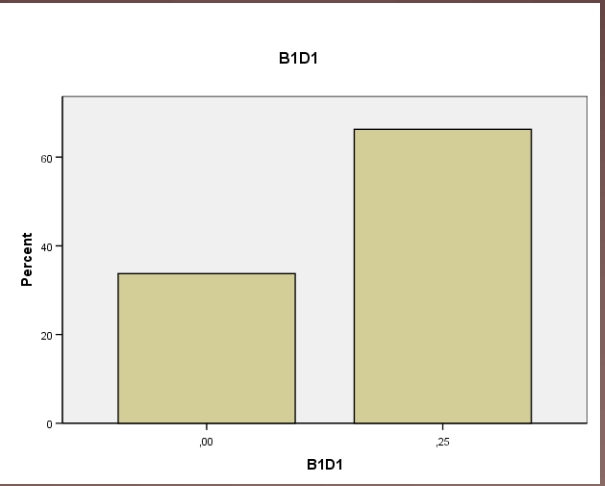
M	0,10 (0,50)
SD	0,100
ID	0,427
α - zadatak	0,883

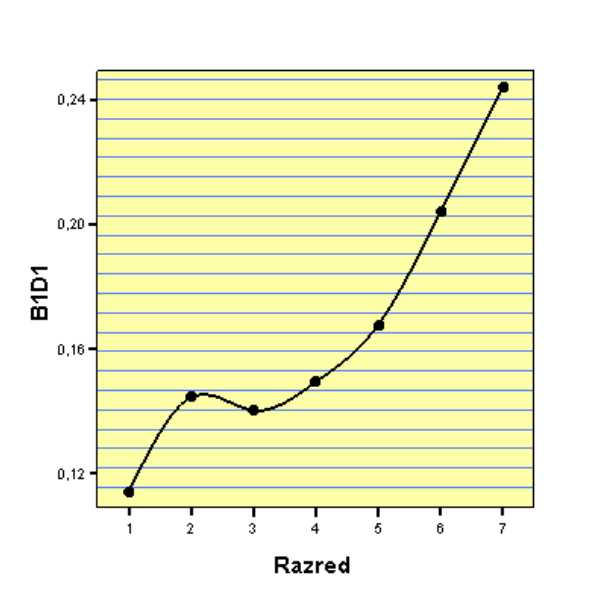




1.D1 Dovršite sljedeću tablicu.

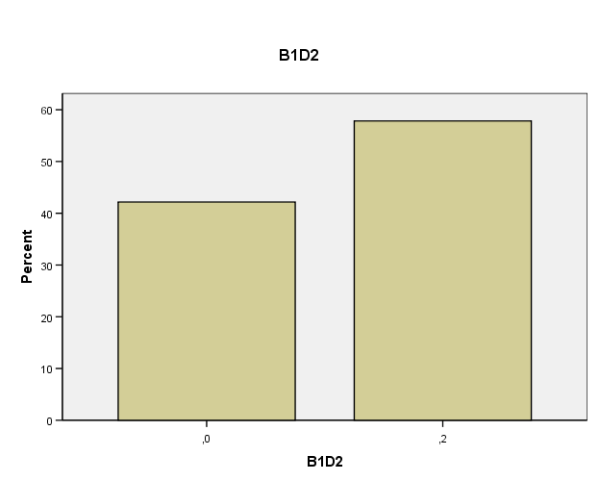
M	0,17 (0,68)
SD	0,118
ID	0,336
α - zadatak	0,884

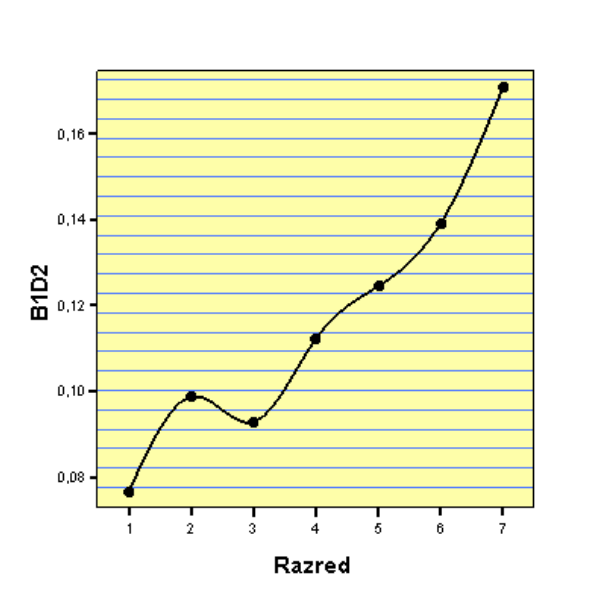




1.D2 Dovršite sljedeću tablicu.

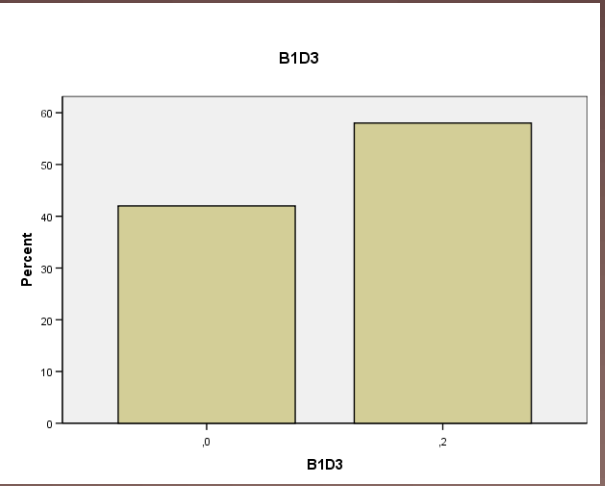
M	0,12 (0,60)
SD	0,099
ID	0,282
α - zadatak	0,884

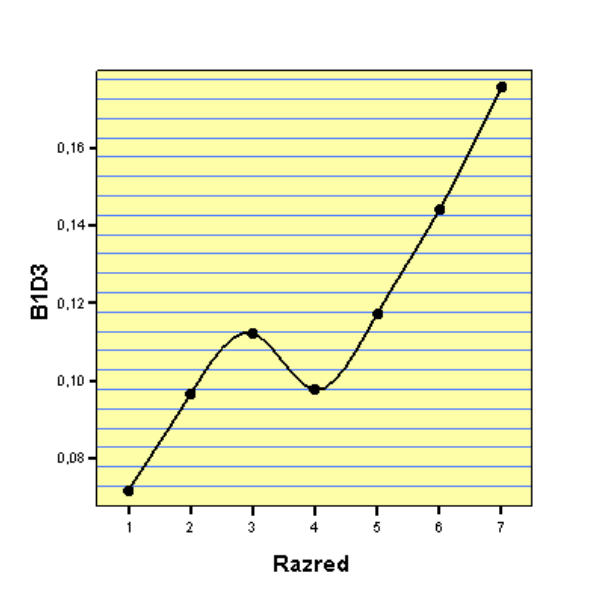




1.D3 Dovršite sljedeću tablicu.

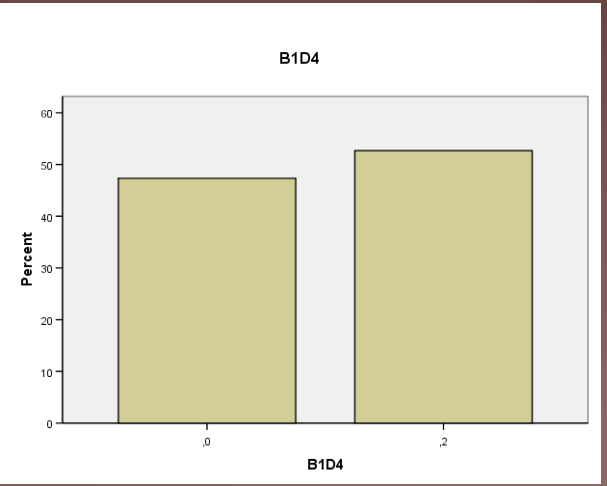
M	0,12 (0,60)
SD	0,099
ID	0,309
α - zadatak	0,884

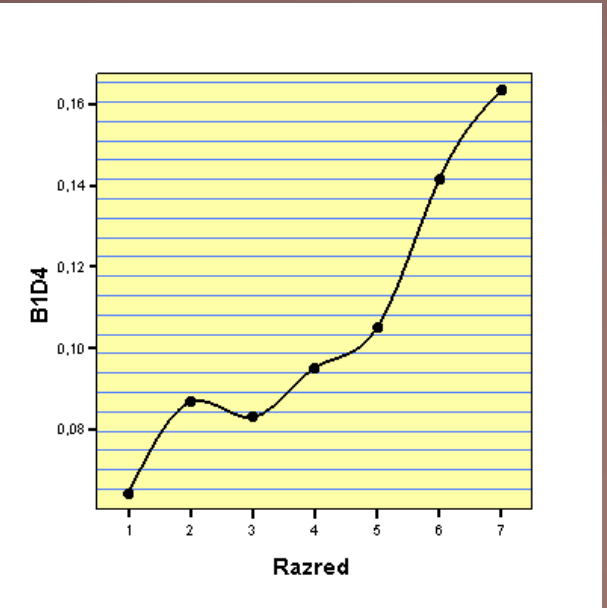




1.D4 Dovršite sljedeću tablicu.

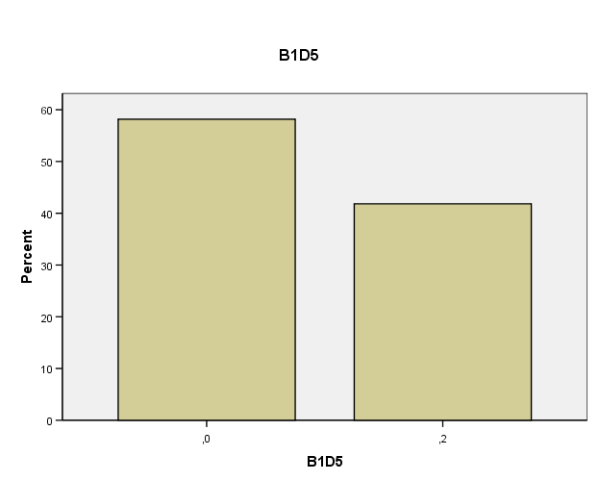
M	0,11 (0,55)
SD	0,100
ID	0,311
α - zadatak	0,884

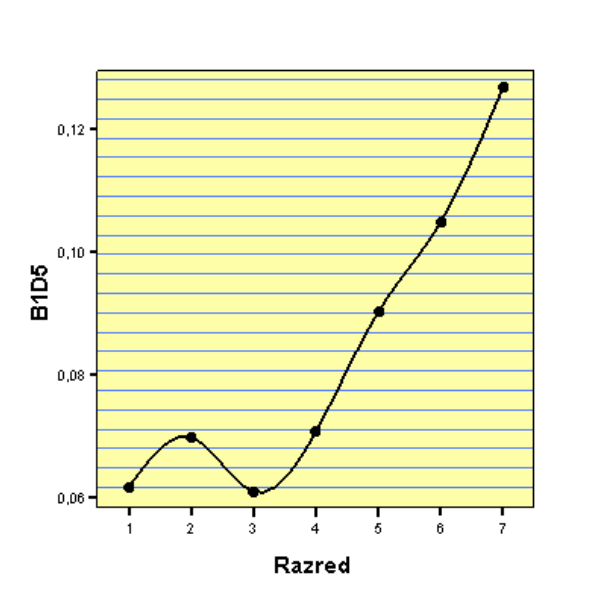




1.D5 Dovršite sljedeću tablicu.

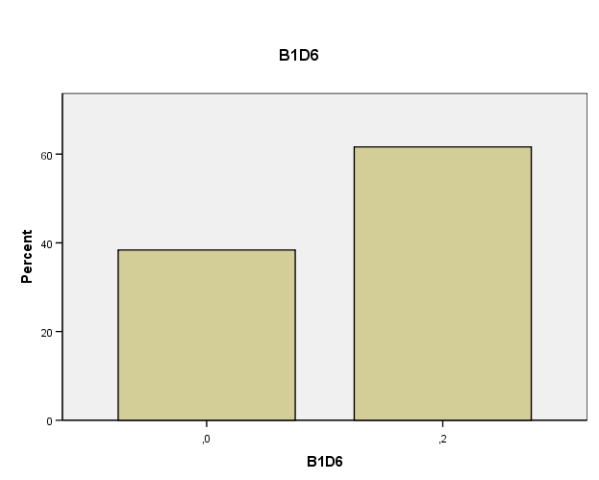
M	0,08 (0,40)
SD	0,099
ID	0,224
α - zadatak	0,884

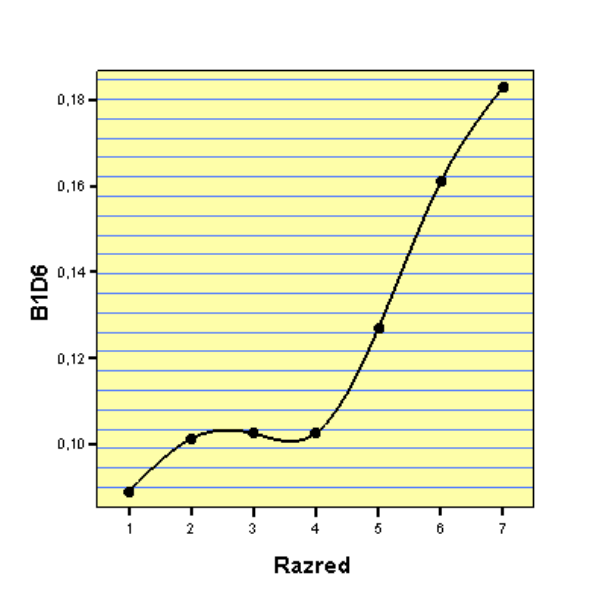




1.D6 Dovršite sljedeću tablicu.

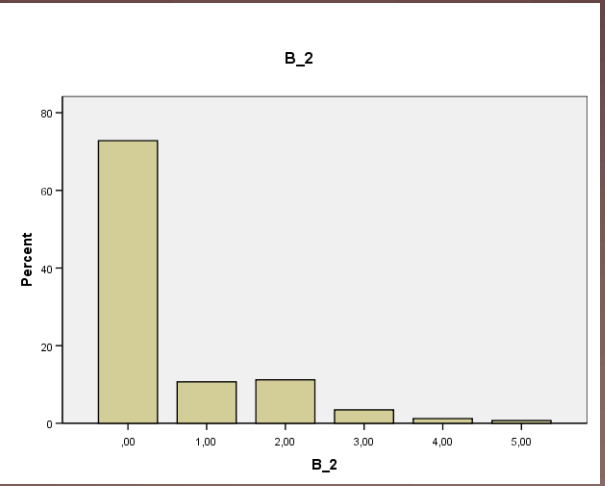
M	0,12 (0,60)
SD	0,097
ID	0,321
α - zadatak	0,884

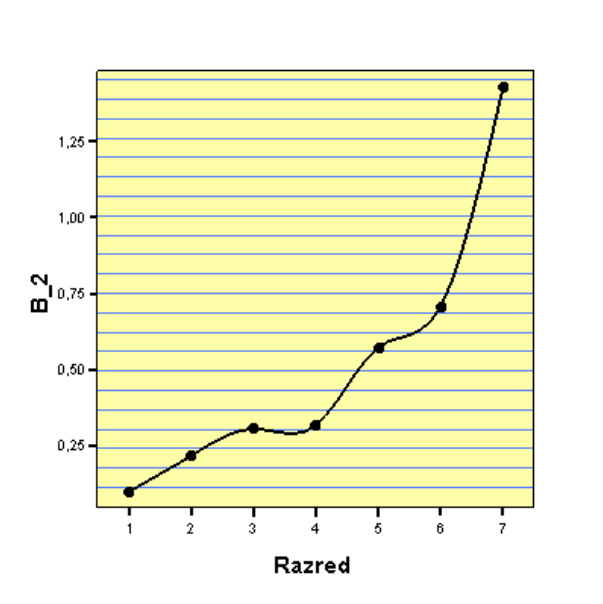




2. Makroskopska svojstva tvari ovise o njezinoj unutarnjoj građi …

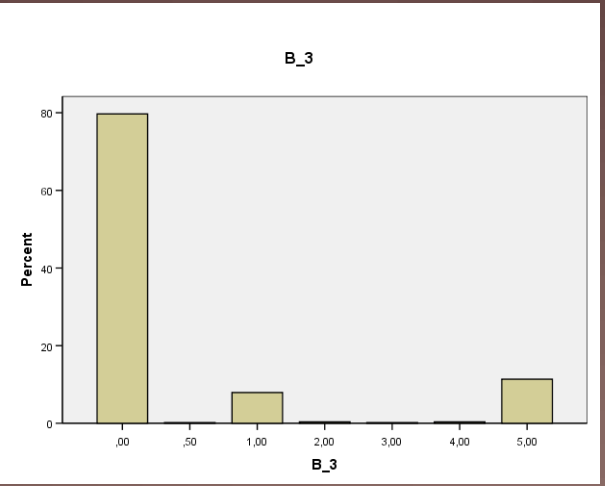
M	0,52 (0,10)
SD	0,986
ID	0,409
α - zadatak	0,881

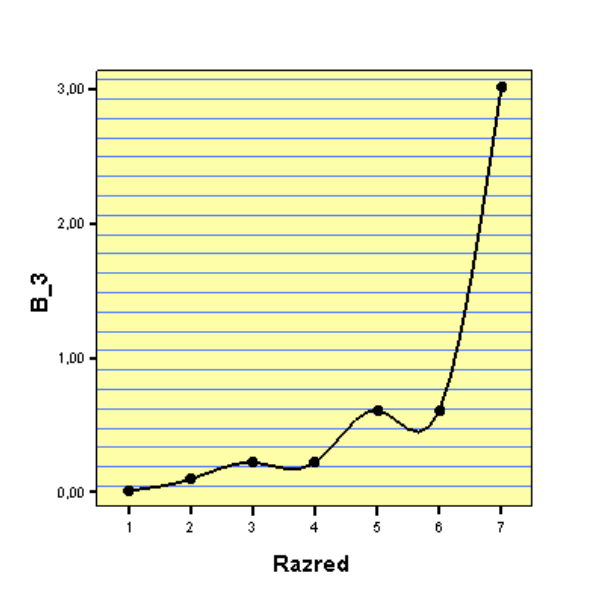




3. Iz dviju otopina natrijeva klorida, od kojih je prva masenoga udjela …

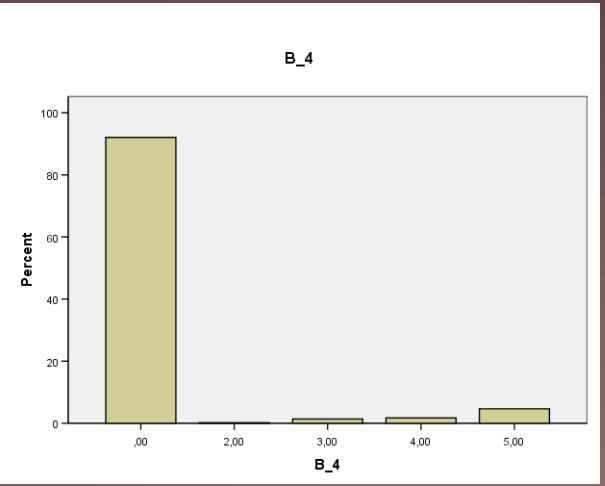
M	0,68 (0,14)
SD	1,606
ID	0,540
α - zadatak	0,879

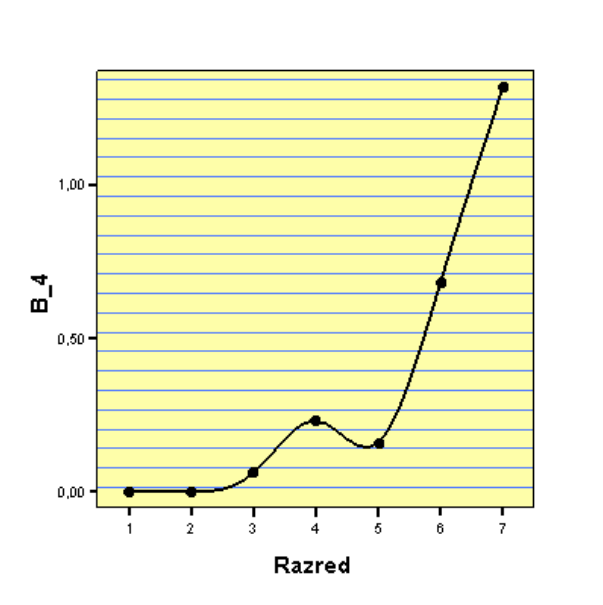




4. U tablici su dani maseni udjeli zasićenih otopina (*wsat*) …

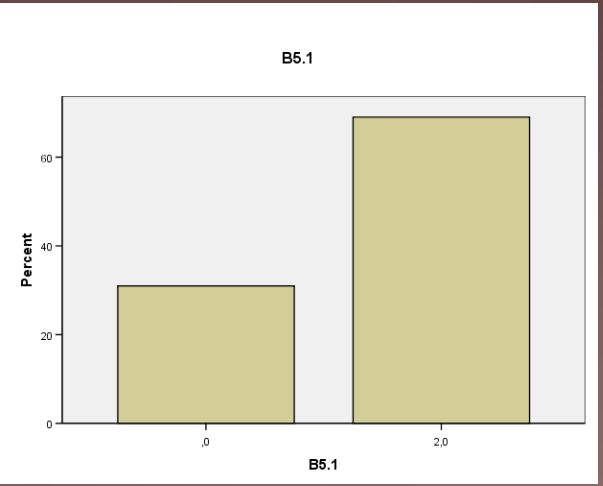
M	0,35 (0,07)
SD	1,211
ID	0,319
α - zadatak	0,882

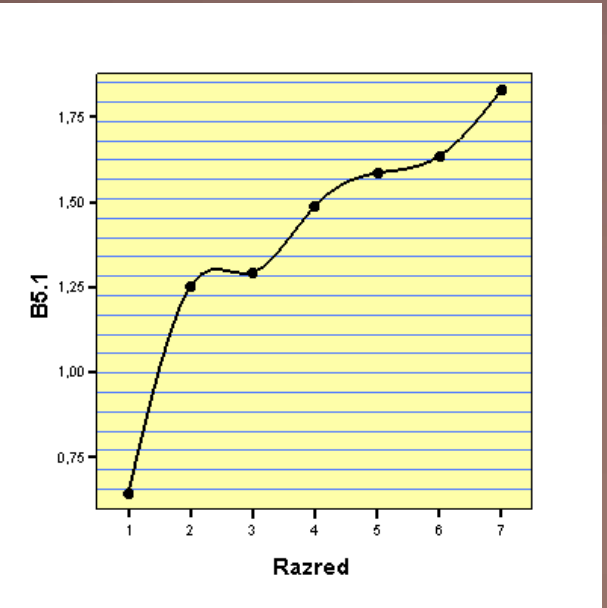




5. 1. Pri kojoj će temperaturi maseni udio soli …

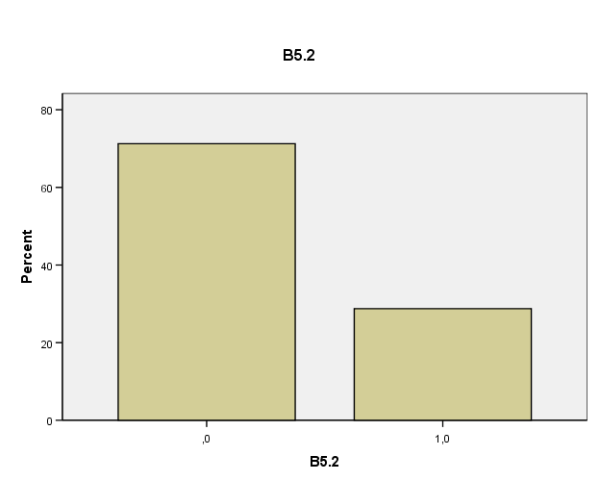
M	1,39 (0,70)
SD	0,922
ID	0,311
α - zadatak	0,882

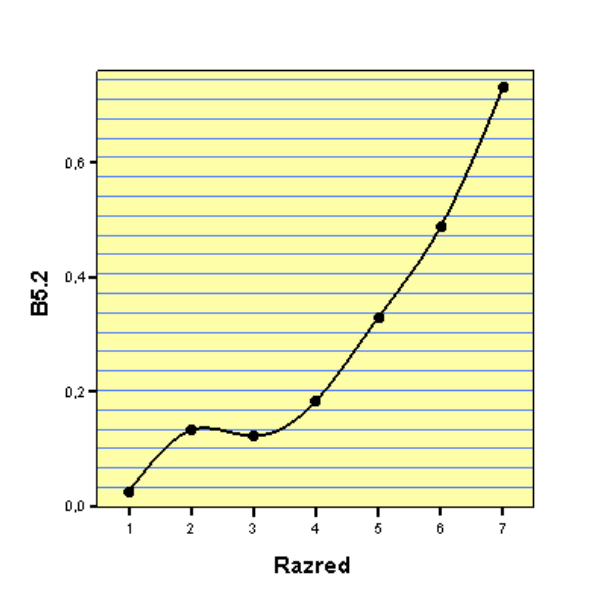




5. 2. Koliko se grama CuSO4 pri 50 °C može maksimalno otopiti ...

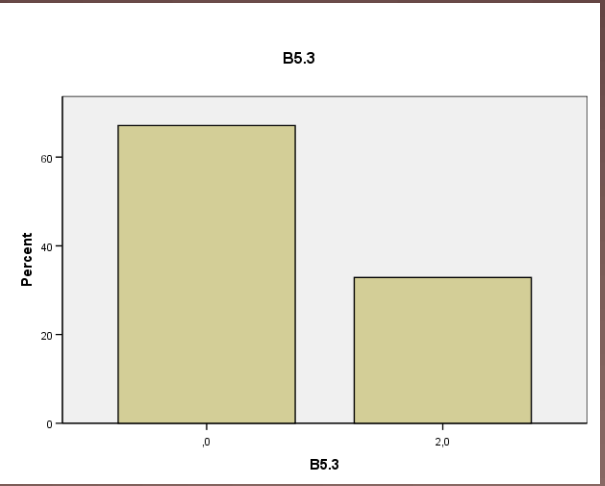
M	0,29
SD	0,453
ID	0,499
α - zadatak	0,882

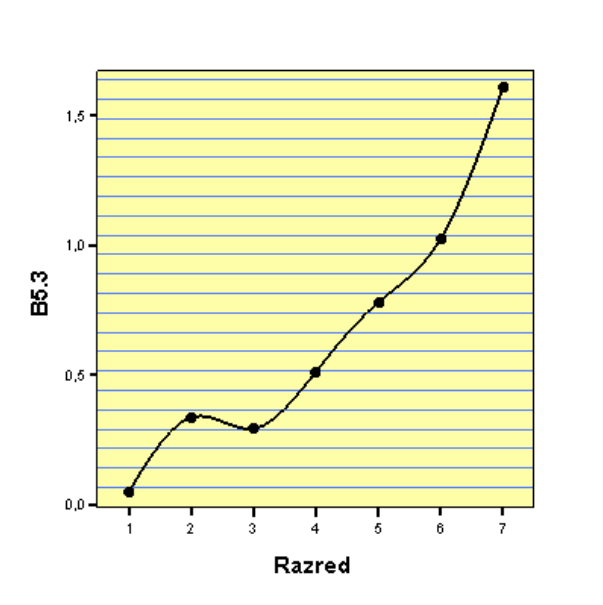




5. 3. Kako nazivamo otopinu čiji je maseni udio soli 33 % pri 60 °C?

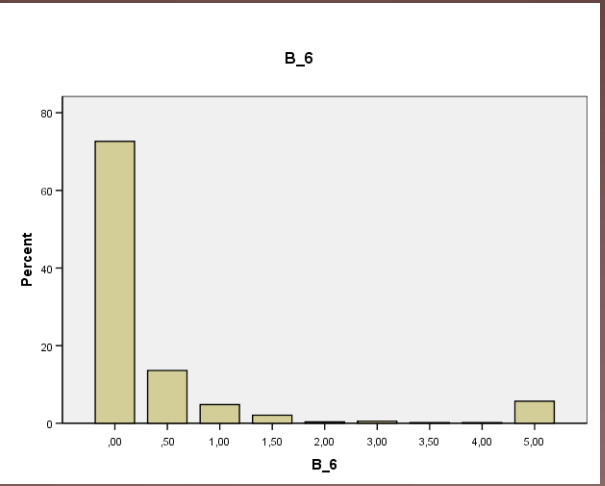
M	0,66 (0,33)
SD	0,941
ID	0,488
α - zadatak	0,881

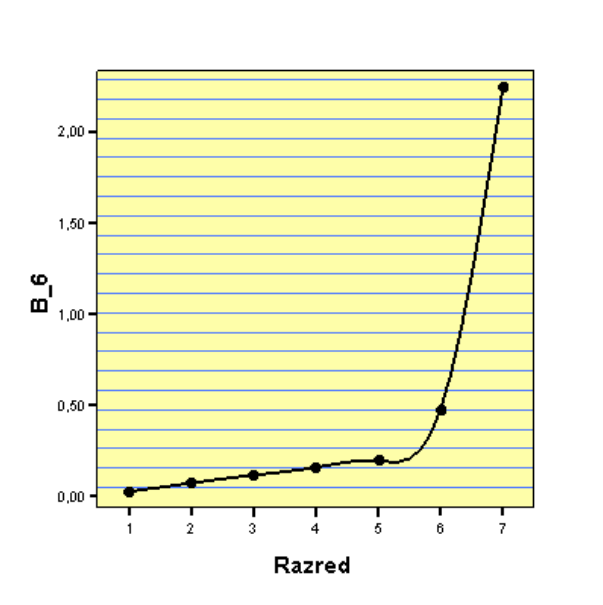




6. Kolika je pH-vrijednost otopine dobivene miješanjem 100 Ml ...

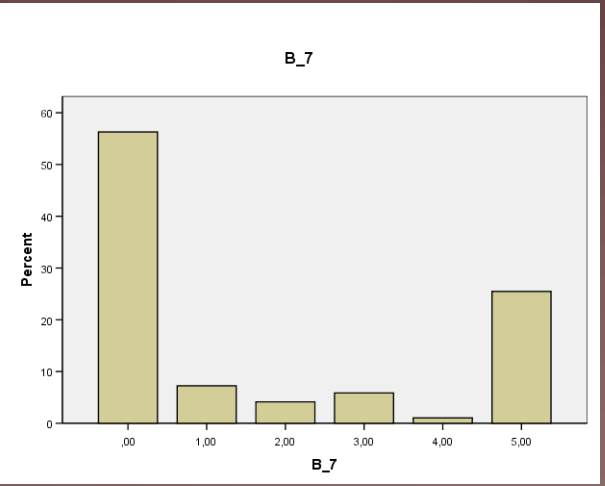
M	0,47 (0,09)
SD	1,207
ID	0,580
α - zadatak	0,879

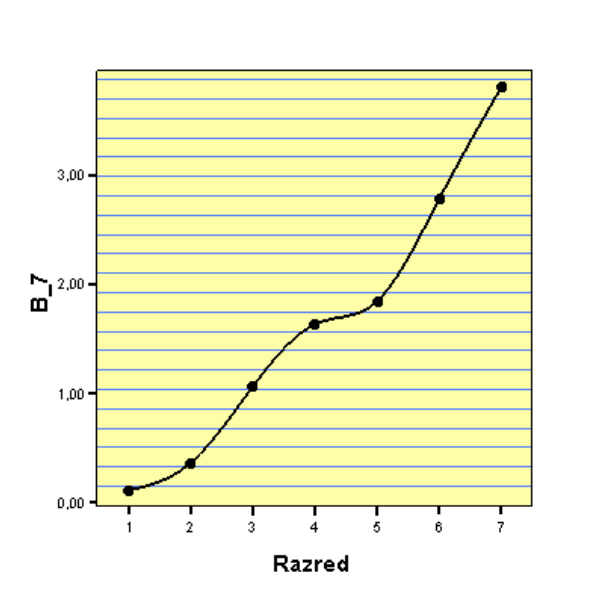




7. Miješanjem pola litre vodene otopine kalijeva hidroksida ...

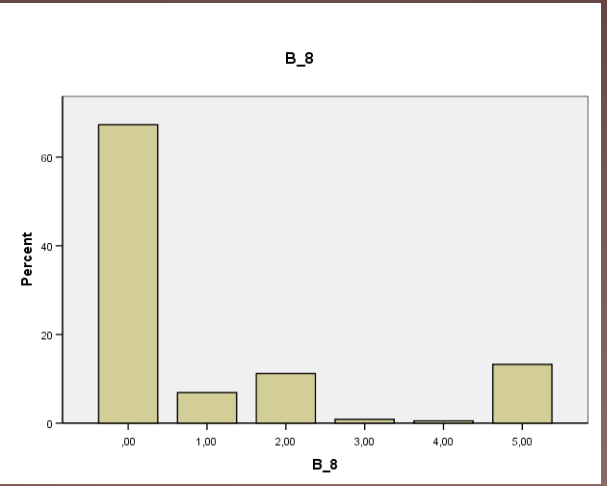
M	1,66 (0,33)
SD	2,146
ID	0,517
α - zadatak	0,879

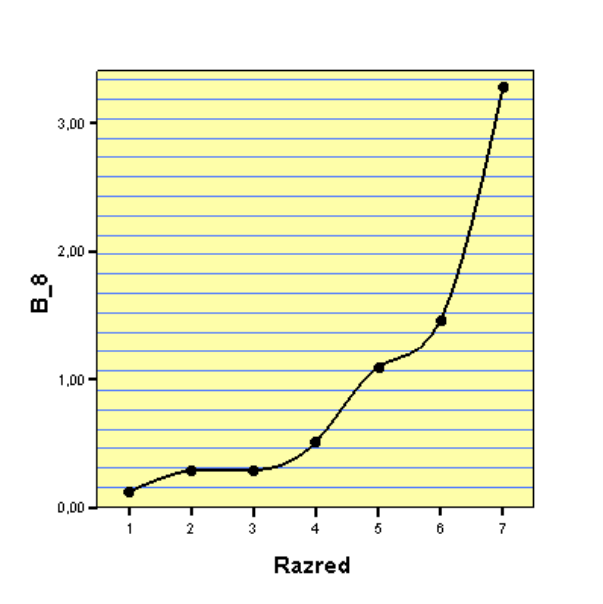




8. Kolika je pH-vrijednost vodene otopine kalcijeva hidroksida ...

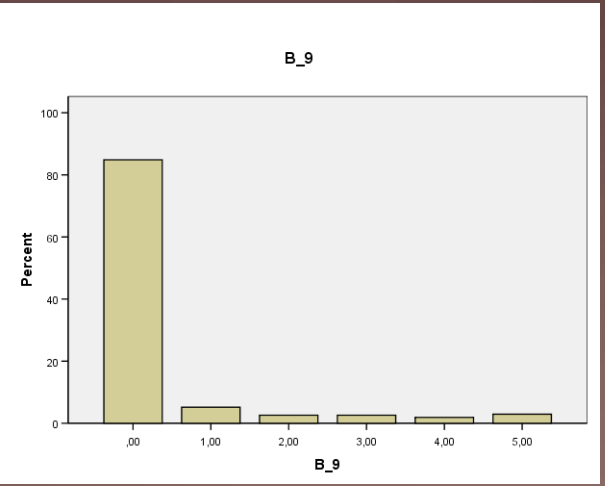
M	1,01 (0,20)
SD	1,737
ID	0,553
α - zadatak	0,878

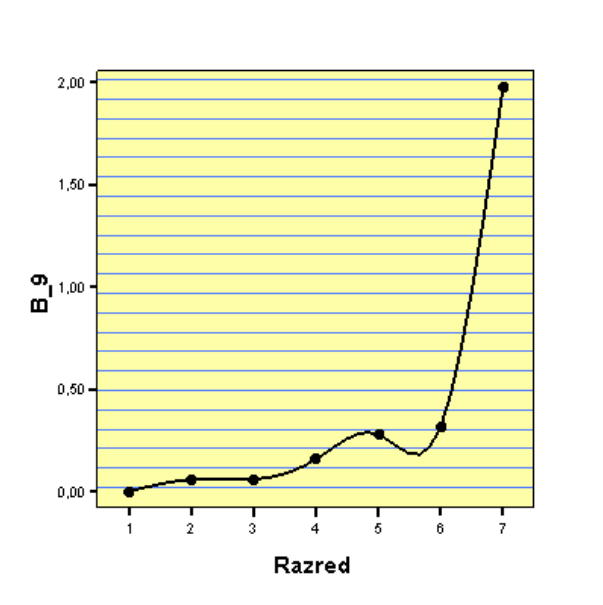




9. Koliki je naboj bio potreban za izlučivanje 100 kg čistoga bakra?

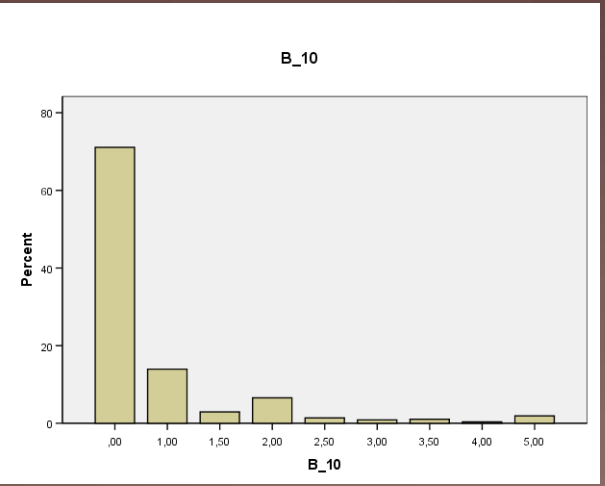
M	0,41 (0,08)
SD	1,129
ID	0,536
α - zadatak	0,880

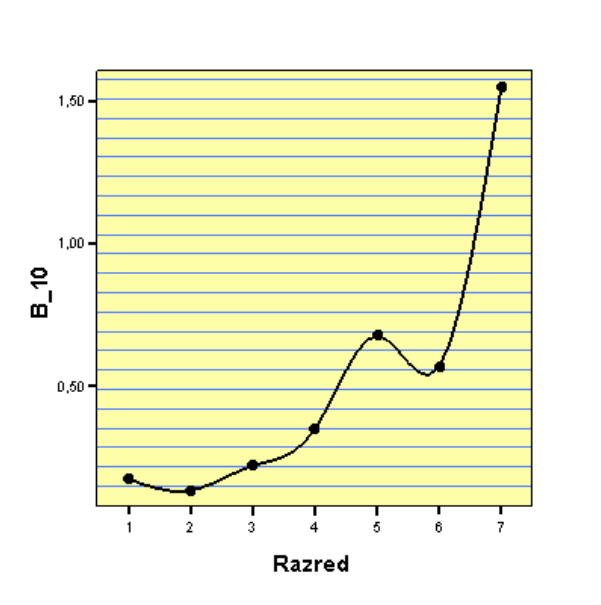




10. Odredite od kojega je metala načinjena elektroda A …

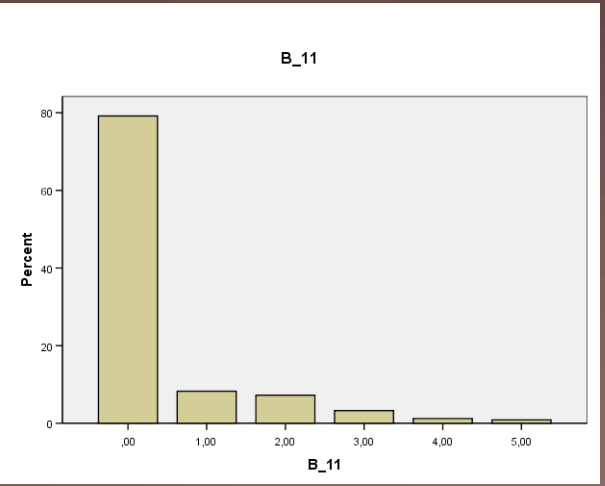
M	0,52 (0,10)
SD	1,013
ID	0,453
α - zadatak	0,881

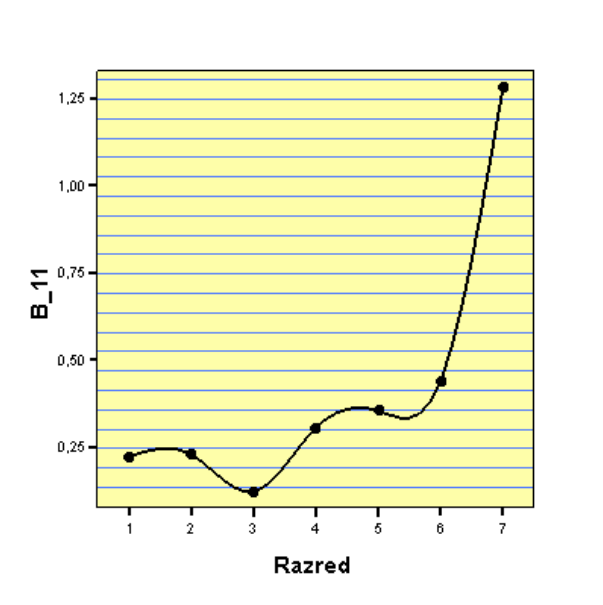




11. Navedite kako konstanta ravnoteže egzotermne reakcije ovisi

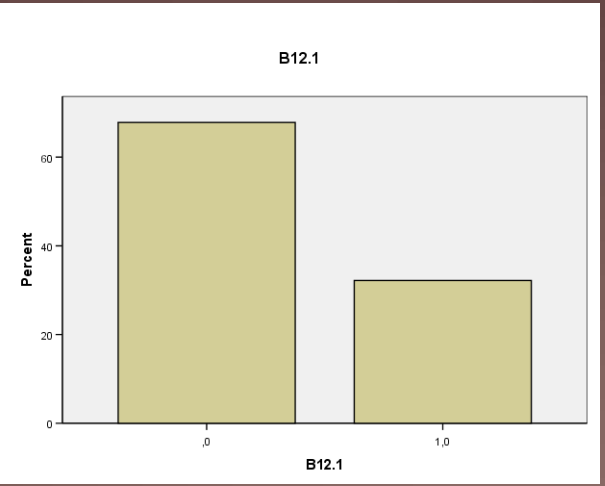
M	0,42 (0,08)
SD	0,954
ID	0,370
α - zadatak	0,882

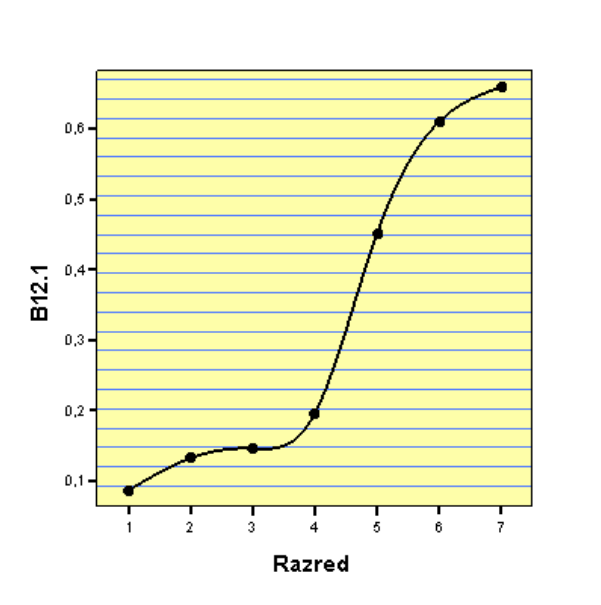




12. 1. Napišite odgovarajuću jednadžbu kemijske reakcije ...

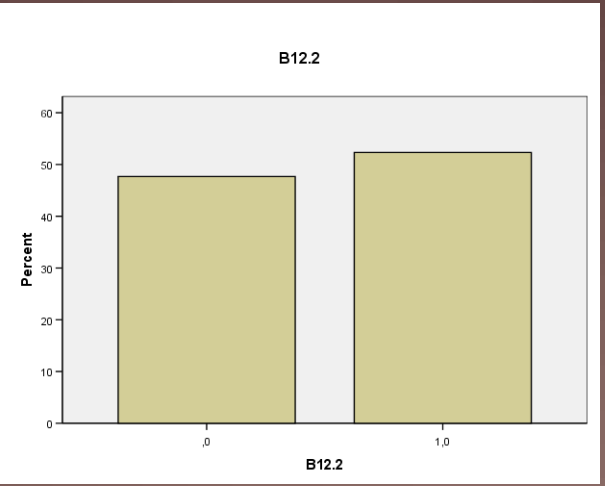
M	0,33
SD	0,469
ID	0,441
α - zadatak	0,882

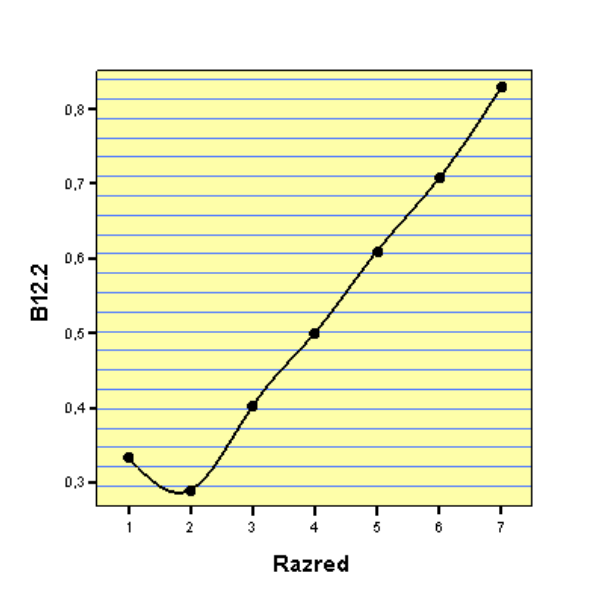




12. 2. Koja je tvar u suvišku i koja je mjerodavni reaktant?...

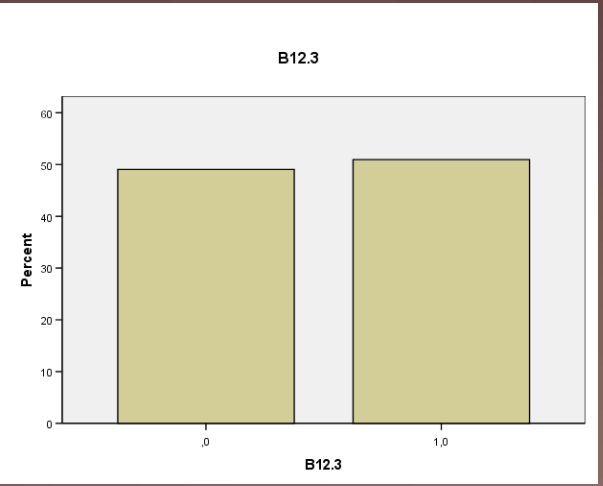
M	0,52
SD	0,500
ID	0,341
α - zadatak	0,883

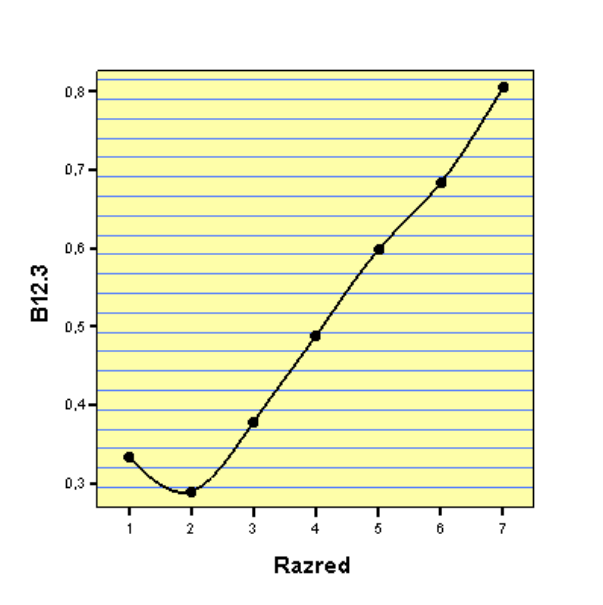




12. 3. Napišite odgovarajuću jednadžbu kemijske reakcije ...

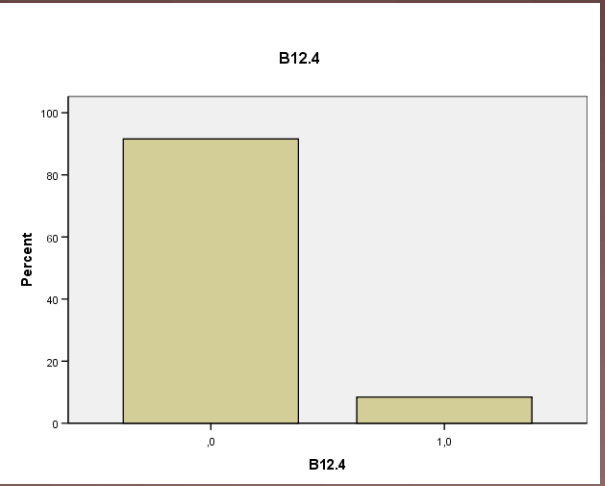
M	0,51
SD	0,500
ID	0,329
α - zadatak	0,883

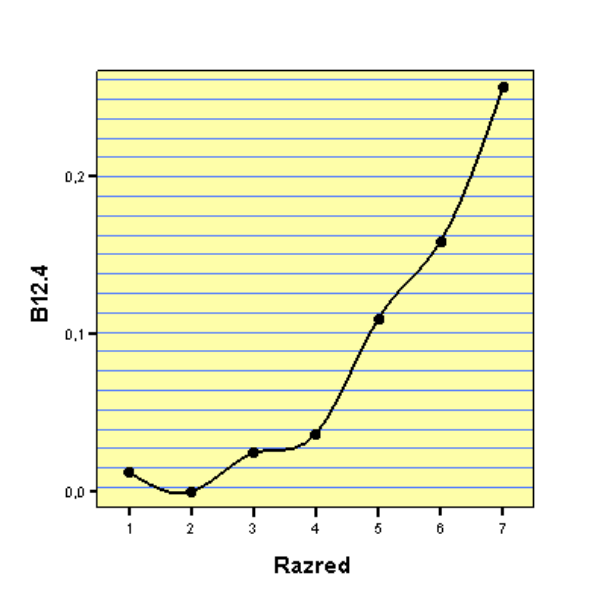


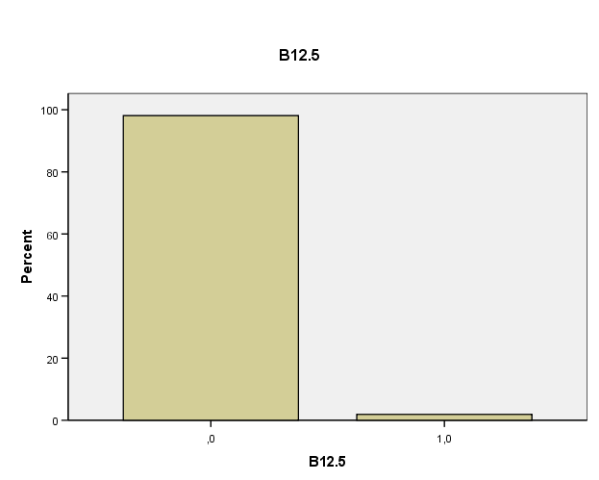
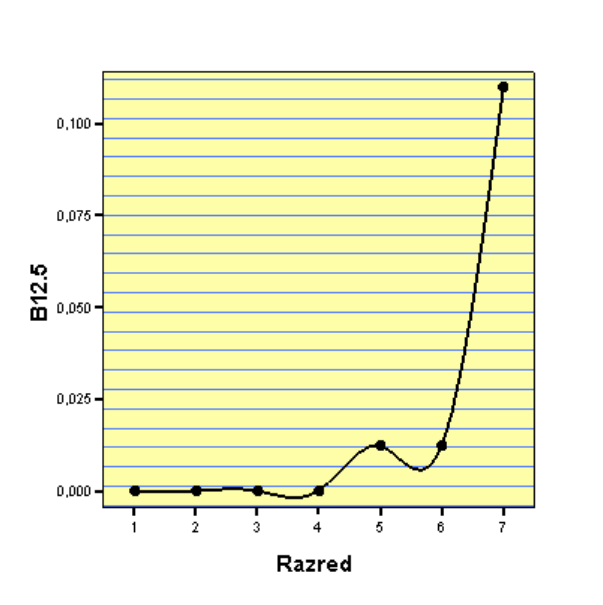


12. 4. Napišite odgovarajuću jednadžbu kemijske reakcije ...

M	0,09
SD	0,280
ID	0,303
α - zadatak	0,883





12. 5. Napišite odgovarajuću jednadžbu kemijske reakcije ...

M	0,02
SD	0,137
ID	0,262
α - zadatak	0,884