

Paralelogram in trapez — 16. vaja

Matematika, Gimnazija Bežigrad

Profesor: prof. Vilko Domajnko

Avtor: Anton Luka Šijanec

16. november 2020

Povzetek

Ta dokument vsebuje domačo nalogo vključujoč snov *Paralelogram in trapez*, ki nam jo je bil profesor naročil 13. novembra 2020, in njene rešitve, ki sem jih spisal sam. Kjer je bilo potrebno izbrati neke poljubne primere, sem jih vedno izbiral naključno.

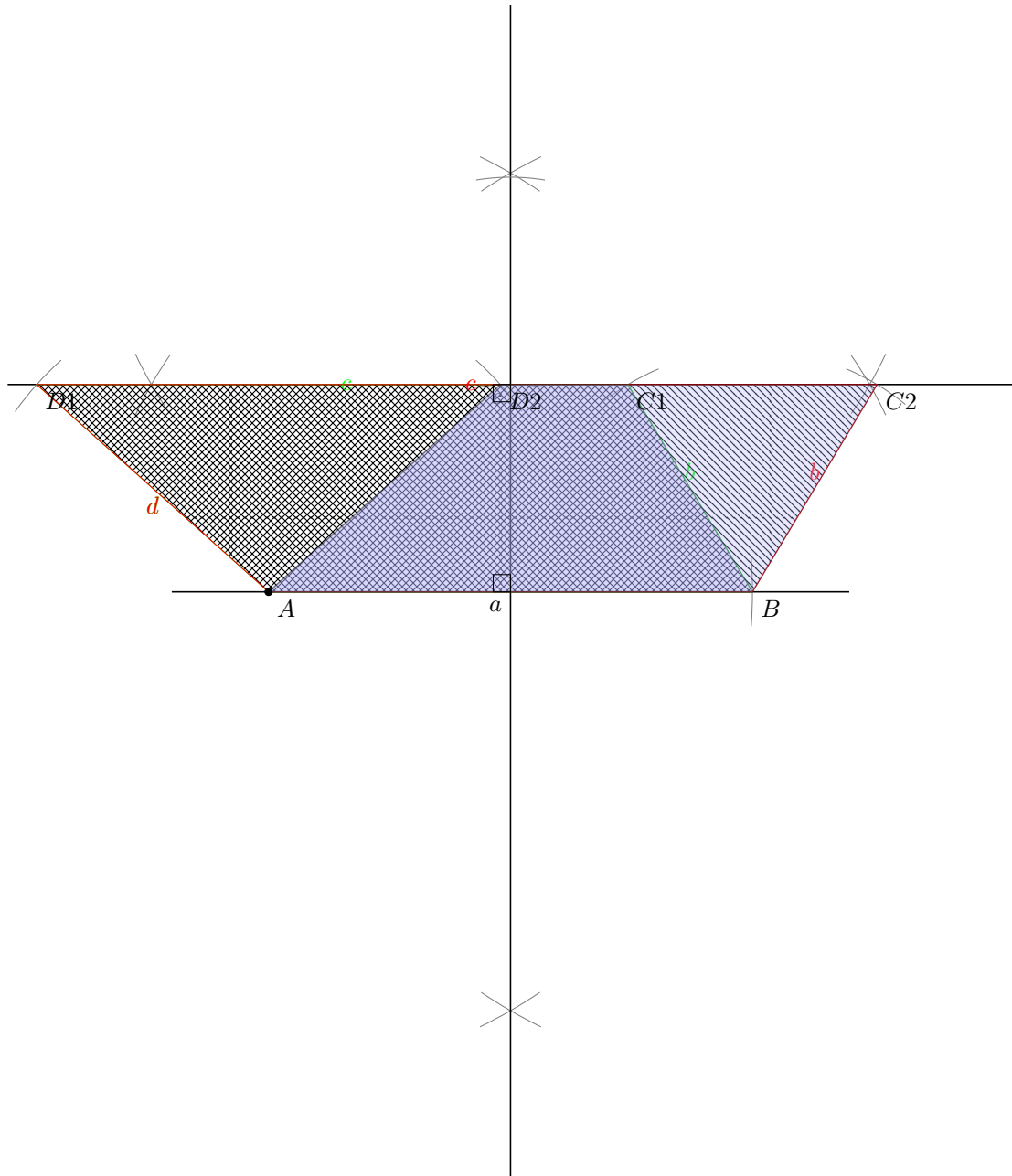
Kazalo vsebine

1 Vaje 2: stran 38, naloga 232	1
2 Anketa	6
3 Zaključek	6

1 Vaje 2: stran 38, naloga 232

1. Načrtaj trapez $ABCD$. Napiši postopek načrtovanja.

a) $a = 7 \text{ cm}$, $v = 3 \text{ cm}$, $b = 3,5 \text{ cm}$, $d = 4,5 \text{ cm}$



```

1 \begin{center}
2   \begin{tikzpicture}
3     \tkzDefPoint(0,0){A} \tkzDefPoint(7,0){B} \tkzDefPoint(7/2+3,0){vH}
4     \tkzDefPoint(4.5,0){dH} \tkzDefPoint(7-3.5,0){bH}
5     \tkzDrawLine(A,B) \tkzLabelLine[below left](A,B){$a$} \tkzCompass(A,B)
6     \tkzInterCC(A,B)(B,A) \tkzGetPoints{P1}{P2}
7     \tkzCompass(A,P1) \tkzCompass(B,P1) \tkzCompass(A,P2) \tkzCompass(B,P2)
8     \tkzInterLL(A,B)(P1,P2) \tkzGetPoint{ABM}
9     \tkzDrawLine(P1,P2)
10    \tkzInterLC(P1,P2)(ABM,vH) \tkzGetPoints{V}{VUSELESS} \tkzCompass(ABM,V)
11    \tkzInterLC(P1,P2)(V,ABM) \tkzGetPoints{VX}{ABMAGAIN} \tkzCompass(V,VX)
12    \tkzInterCC(ABM,VX)(VX,ABM) \tkzGetPoints{V1}{V2}
13    \tkzCompass(ABM,V1) \tkzCompass(VX,V1)
14    \tkzCompass(ABM,V2) \tkzCompass(VX,V2)
15    \tkzDrawLine(V1,V2) \tkzLabelLine[below left](V1,V2){$c$}
16    \tkzInterLC(V1,V2)(A,dH) \tkzGetPoints{D1}{D2}
17    \tkzCompass(A,D1) \tkzCompass(A,D2)
18    \tkzInterLC(V1,V2)(B,bH) \tkzGetPoints{C1}{C2}
19    \tkzCompass(B,C1) \tkzCompass(B,C2)
20    \draw[green, pattern=north east lines] (A) -- (B) node [midway, left]{$ $} -- (C1)
21    node [midway, right, above]{$b$} -- (D1) node [midway, right]{$c$} -- (A) node [midway,
    below]{$d$} -- cycle;
    \draw[red, pattern=north west lines] (A) -- (B) node [midway, left]{$ $} --(C2) node
    [midway, right, above]{$b$} -- (D1) node [midway, right]{$c$} -- (A) node [midway,

```

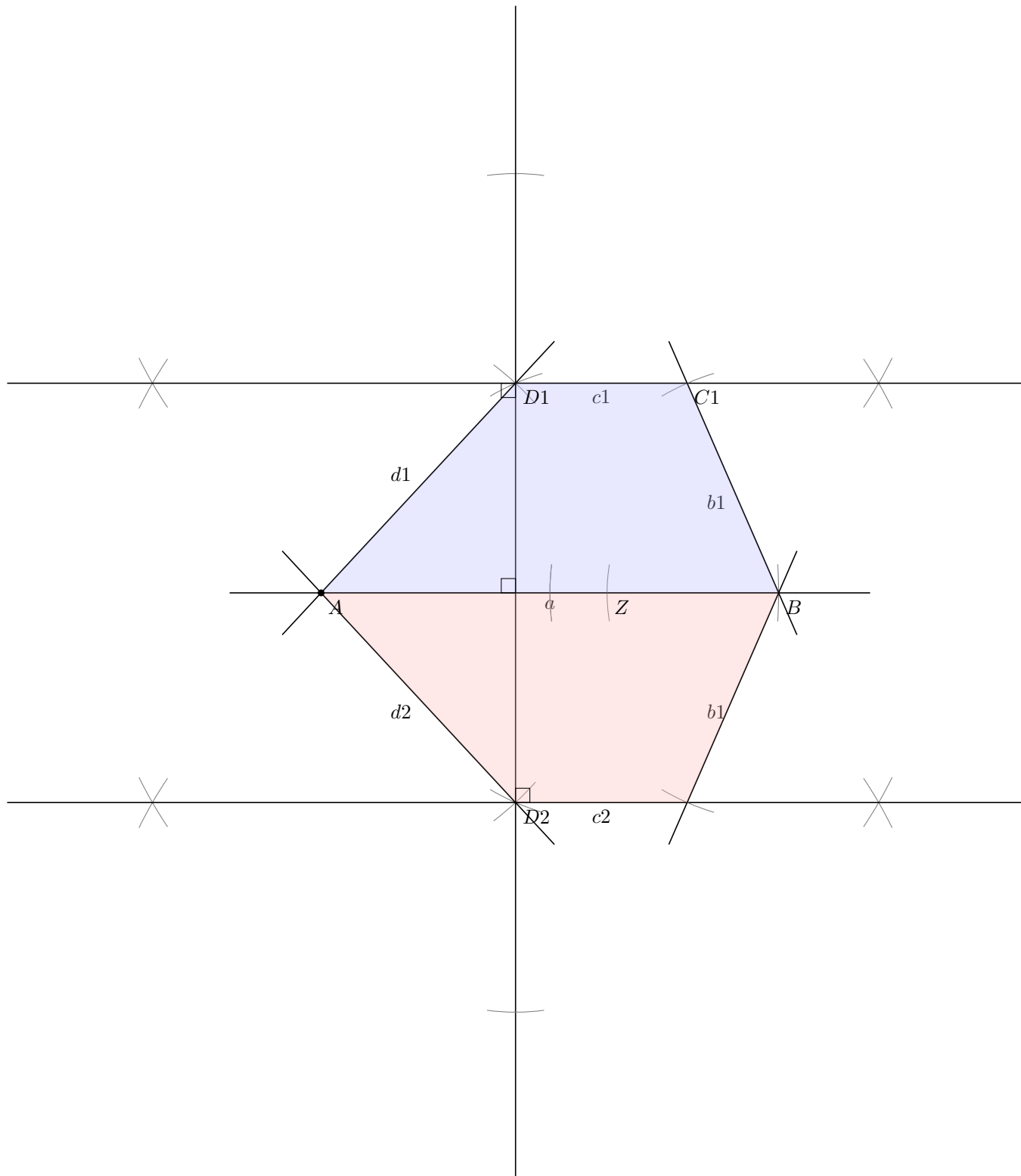
```

below[{$d$} -- cycle;
22 \tkzDrawPolygon[fill=blue!30, opacity=.30](A,B,C1,D2)
23 \tkzDrawPolygon[fill=blue!30, opacity=.30](A,B,C2,D2)
24 \tkzInterLL(V,VX)(V1,V2) \tkzGetPoint{PRAVIKOT2}
25 \tkzMarkRightAngles(A,ABM,P1 ABM,PRAVIKOT2,V1)
26 \tkzDrawPoints(A) \tkzLabelPoints(A,B,D1,D2,C1,C2)
27 \end{tikzpicture}
28 \end{center}

```

č) $a = 7 \text{ cm}, \alpha = 45^\circ, \gamma = 120^\circ, v = 3 \text{ cm}$

d) $a = 8 \text{ cm}, b = 4 \text{ cm}, c = 3 \text{ cm}, d = 5 \text{ cm}$

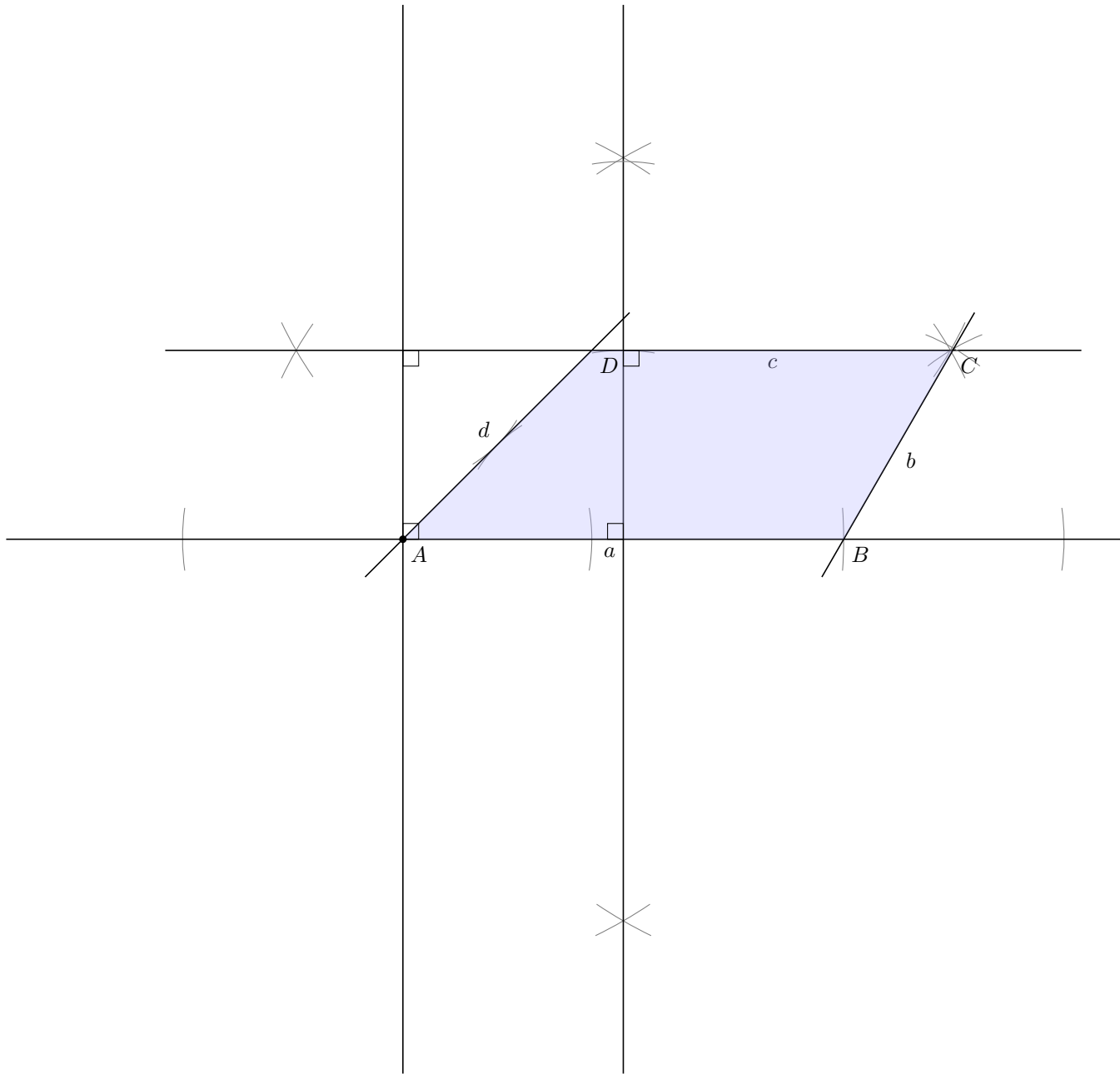


```

1 \begin{center}
2   \begin{tikzpicture}
3     \tkzDefPoint(0,0){A} \tkzDefPoint(8,0){B} \tkzDefPoint(8-3,0){Z}
4     \tkzDefPoint(5,0){dH} \tkzDefPoint(8-3-4,0){bH} \tkzDefPoint(8-4,0){bHB}
5     \tkzDrawLine(A,B) \tkzLabelLine[below](A,B){$a$} \tkzCompass(A,B)
6     \tkzCompass(B,Z)
7     \tkzInterCC(A,dH)(Z,bH) \tkzGetPoints{D1}{D2}
8     \tkzCompass(A,D1) \tkzCompass(Z,D1) \tkzCompass(A,D2) \tkzCompass(Z,D2)
9     \tkzDrawLine(A,D1) \tkzLabelLine[above left](A,D1){$d1$}
10    \tkzDrawLine(A,D2) \tkzLabelLine[below left](A,D2){$d2$}
11    \tkzInterLL(D1,D2)(A,B) \tkzGetPoint{M}
12    \tkzInterLC(D1,D2)(D1,M) \tkzGetPoints{D1X}{MAGAIN} \tkzCompass(D1,D1X)
13    \tkzInterLC(D1,D2)(D2,M) \tkzGetPoints{MAGAIN}{D2X}
14    \tkzDrawLine(D1X,D2X) \tkzCompass(D2,D2X)
15    \tkzInterCC(D1X,M)(M,D1X) \tkzGetPoints{V11}{V21}
16    \tkzCompass(D1X,V11) \tkzCompass(D1X,V21)
17    \tkzCompass(M,V11) \tkzCompass(M,V21) \tkzDrawLine(V11,V21)
18    \tkzInterCC(D2X,M)(M,D2X) \tkzGetPoints{V12}{V22}
19    \tkzCompass(D2X,V12) \tkzCompass(D2X,V22)
20    \tkzCompass(M,V12) \tkzCompass(M,V22) \tkzDrawLine(V12,V22)
21    \tkzCompass(B,bHB) \tkzInterLC(V11,V21)(B,bHB) \tkzGetPoints{C1}{USEL}
22    \tkzCompass(B,C1) \tkzDrawLine(B,C1)
23    \tkzLabelLine[below left](B,C1){$b1$}
24    \tkzCompass(B,bHB) \tkzInterLC(V12,V22)(B,bHB) \tkzGetPoints{USEL}{C2}
25    \tkzCompass(B,C2) \tkzDrawLine(B,C2)
26    \tkzLabelLine[below left](B,C2){$b1$}
27    \tkzLabelLine[below](D1,C1){$c1$}
28    \tkzLabelLine[below](D2,C2){$c2$}
29    \tkzDrawPolygon[fill=blue!30, opacity=.30](A,B,C1,D1)
30    \tkzDrawPolygon[fill=red!30, opacity=.30](A,B,C2,D2)
31    \tkzMarkRightAngles(A,M,D1 M,D1,V21 M,D2,C2)
32    \tkzDrawPoints(A) \tkzLabelPoints(A,B,Z,D1,D2,C1)
33  \end{tikzpicture}
34 \end{center}

```

e) $a = 6 \text{ cm}$, $\alpha = 45^\circ$, $\beta = 120^\circ$, $c = 3 \text{ cm}$



```

1 \begin{center}
2   \begin{tikzpicture}
3     \tkzDefPoint(0,0){A} \tkzDefPoint(7,0){B} \tkzDefPoint(7/2+3,0){vH}
4     \tkzLabelLine[below left](A,B){$a$} \tkzCompass(A,B)
5     \tkzInterCC(A,B)(B,A) \tkzGetPoints{P1}{P2}
6     \tkzCompass(A,P1) \tkzCompass(B,P1) \tkzCompass(A,P2)\tkzCompass(B,P2)
7     \tkzDrawLine(P1,P2) \tkzInterLL(P1,P2)(A,B) \tkzGetPoint{M}
8     \tkzInterLC(P1,P2)(M,vH) \tkzGetPoints{V}{VUSELESS} \tkzCompass(M,V)
9     \tkzInterLC(P1,P2)(V,M) \tkzGetPoints{VX}{MAGAIN} \tkzCompass(V,VX)
10    \tkzInterCC(M,VX)(VX,M) \tkzGetPoints{V1}{V2}
11    \tkzCompass(M,V1)\tkzCompass(M,V2)\tkzCompass(VX,V1)\tkzCompass(VX,V2)
12    \tkzDrawLine(V1,V2) \tkzInterLL(P1,P2)(V1,V2) \tkzGetPoint{M2}
13    \tkzInterLC(A,B)(A,M) \tkzGetPoints{MX}{MAGAIN} \tkzCompass(A,MX)
14    \tkzInterCC(MX,M)(M,MX) \tkzGetPoints{A1}{A2}
15    \tkzDrawLine(A1,A2) \tkzInterLL(A1,A2)(V1,V2) \tkzGetPoint{AV}
16    \tkzInterLC(A,B)(A,AV) \tkzGetPoints{USELESS}{AK9} \tkzCompass(A,AK9)
17    \tkzDefMidPoint(AV,AK9) \tkzGetPoint{AK}
18    \tkzCompass(AV,AK) \tkzCompass(AK9,AK)
19    \tkzInterLL(V1,V2)(A,AK) \tkzGetPoint{D}
20    \tkzDrawLine(A,D) \tkzLabelLine[above left](A,D){$d$}
21    \tkzInterLC(A,B)(B,M) \tkzGetPoints{MAGAIN}{MXB} \tkzCompass(B,MXB)
22    \tkzDrawLine(MX,MXB) \tkzInterCC(B,MXB)(MXB,B)
23    \tkzGetPoints{120}{USELESS} \tkzCompass(B,120) \tkzCompass(MXB,120)
24    \tkzInterLL(B,120)(V1,V2) \tkzGetPoint{C}

```

```

25 \tkzDrawLine(B,C) \tkzLabelLine[below right](B,C){$b$}
26 \tkzLabelLine[below](D,C){$c$}
27 \tkzDrawPolygon[fill=blue!30, opacity=.3](A,B,C,D)
28 \tkzMarkRightAngles(A,M,P1 M,M2,V2 M,A,AV A,AV,V)
29 \tkzDrawPoints(A) \tkzLabelPoints(A,B,D,C)
30 \end{tikzpicture}
31 \end{center}

```

2 Anketa

Pri anketi nisem povsem opredeljen. Ne vem popolnoma, ali bi izbral odgovor A ali C, vendar vseeno **izberem odgovor A**, ker vsled kasnejšega oddajanja naloge nimam več *prava glasovanja*, ki bi mi omogočilo oddajanje polovičnih glasov.

3 Zaključek

Ta dokument je informativne narave in se lahko še spreminja. Najnovejša različica, torej PDFji in L^AT_EX izvorna koda, zgodovina sprememb in prejšnje različice, je na voljo v mojem šolskem Git repozitoriju na <https://git.sijanec.eu/sijanec/sola-gimb-2> v mapi /mat/domace_naloge/16/. Povezava za ogled zadnje različice tega dokumenta v PDF obliki je http://razor.arnes.si/~asija3/files/sola/gimb/2/mat/domace_naloge/16/dokument.pdf in/ali https://git.sijanec.eu/sijanec/sola-gimb-2/raw/branch/master/mat/domace_naloge/16/dokument.pdf.

Razhroščevalne informacije

Te informacije so generirane, ker je omogočeno razhroščevanje. Pred objavo dokumenta izklopite razhroščevanje. To naredite tako, da nastavite ukaz **razhroscevanje** na 0 v začetku dokumenta.

Grafi imajo natančnost 100 točk na graf.

Konec generiranja dokumenta: 16. 11. 2020 ob 14:26:26

Dokument se je generiral 7 s.