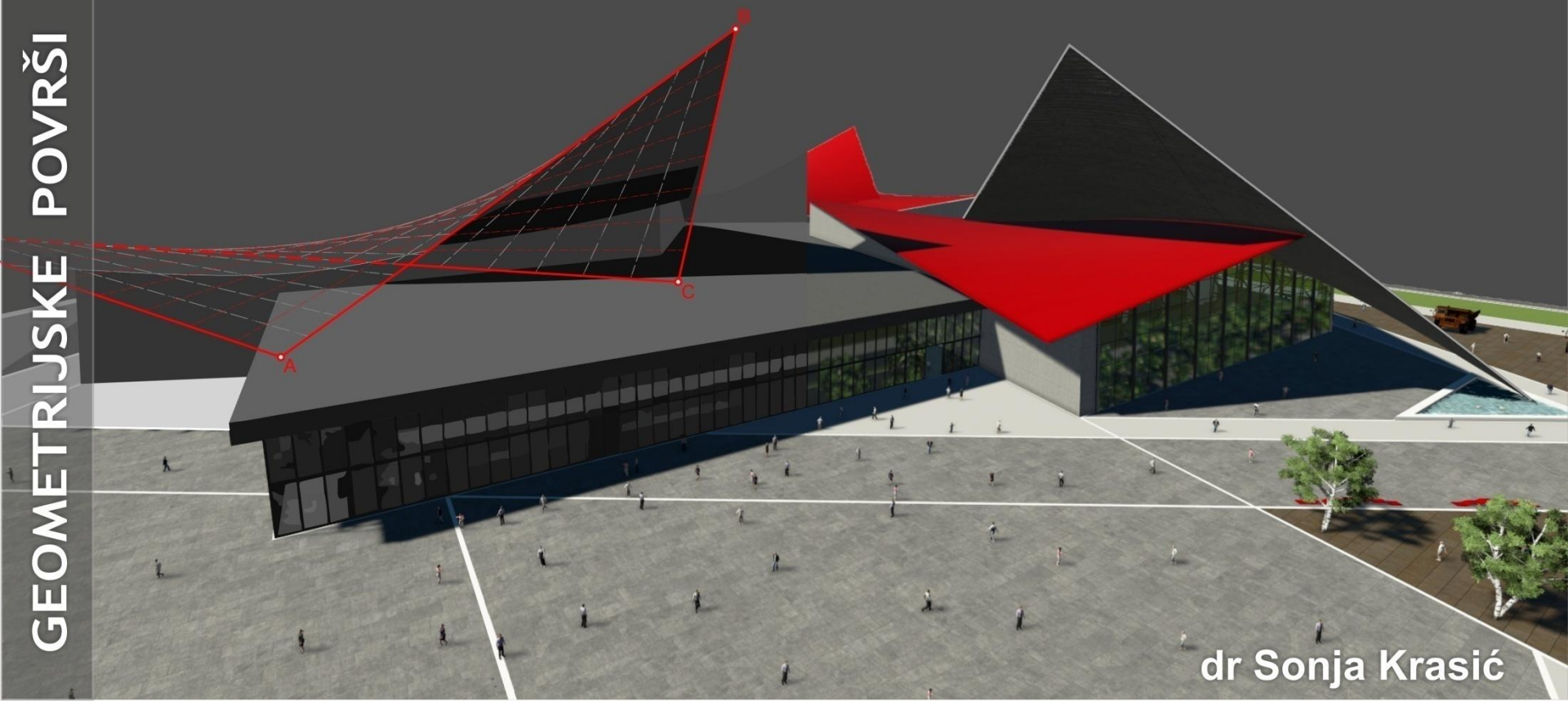


III PREDAVANJE

POLIEDARSKE POVRŠI





GEOMETRIJSKE POVRŠI U ARHITEKTURI

I PRAVOIZVODNE POVRŠI

I.1. RAZVOJNE:

I.1.1. POLIEDARSKE

I.1.1.1. Pravi poliedri

I.1.1.2. **Piramide i prizme**

I.1.2. JEDNOSTRUKO-ZAKRIVLJENE

I.1.2.1. Konusi i oblice

I.1.2.2. Konvolutne površi

I.2. NERAZVOJNE:

I.2.1. JEDNOSTRUKO-IZVODNE

I.2.1.1. Helikoidi

I.2.1.2. Cilindroidi

I.2.1.3. Konoidi

I.2.1.4. Tetroidi

I.2.2. DVOSTRUKO-IZVODNE

I.2.2.1. Jednograni obrtni hiperboloid

I.2.2.2. Jednograni eliptični hiperboloid

I.2.2.3. Hiperbolički paraboloid

II DVOSTRUKO ZAKRIVLJENE POVRŠI

II.1. OPŠTE POVRŠI

II.1.1. LOPTA (SFERA)

II.1.2. ELIPSOID

II.1.3. PARABOLOID

II.1.4. DVOGRANI HIPERBOLOID

II.2. OBRTNE POVRŠI

II.2.1. OPŠTE

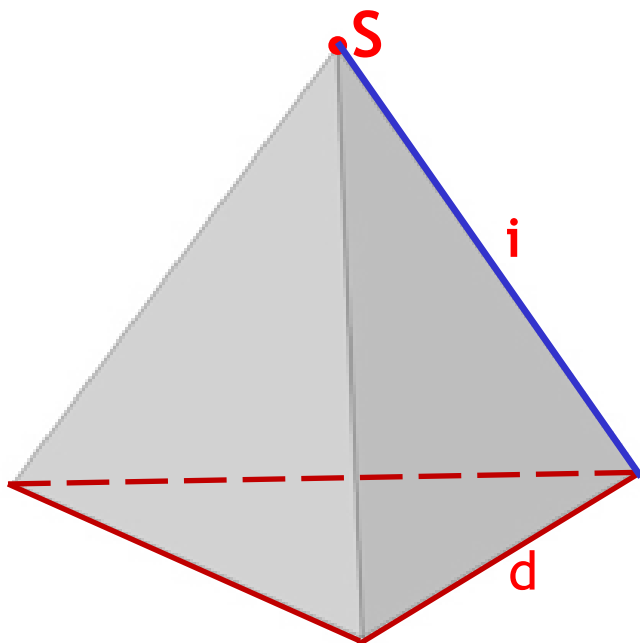
II.2.2. TORUSI

II.3. KLIZNE (TRANSLACIJSKE) POVRŠI



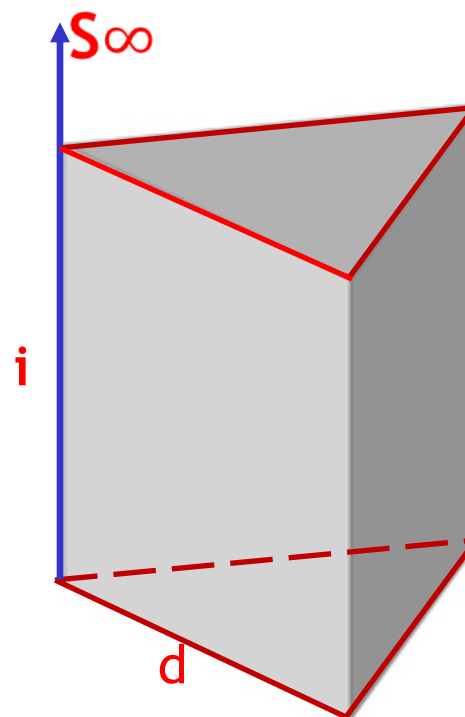
PIRAMIDE I PRIZME

PIRAMIDE I PRIZME



PIRAMIDE

- vrh - tačka S
- bazis - pravilni ili nepravilni poligon d
- izvodnice i



PRIZME

- vrh - tačka S_{∞}
- dva bazisa - pravilni ili nepravilni poligoni d
- paralelne izvodnice i



PIRAMIDE I PRIZME

Različita podela:

Prema bazu:

- pravilne (pravilan mnogougao)
- nepravilne (nepravilan mnogougao)

Prema broju strana poligona:

- trostrane
- četverostrane
- višestране

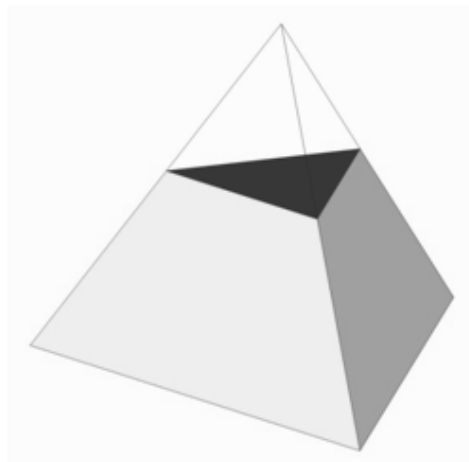
Prema položaju ose prema ravni bazisa:

- prave (osa upravna na ravan bazisa)
- kose (osa nije upravna na ravan bazisa)

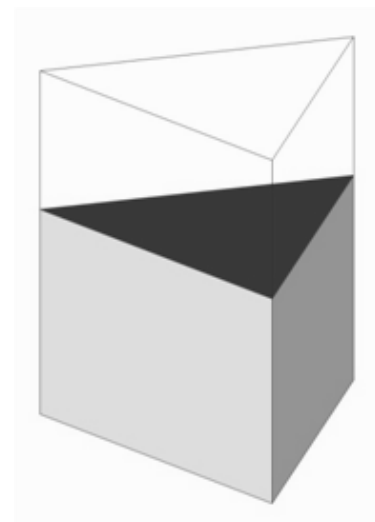
PIRAMIDE I PRIZME

Ravni preseci

Sl. 1

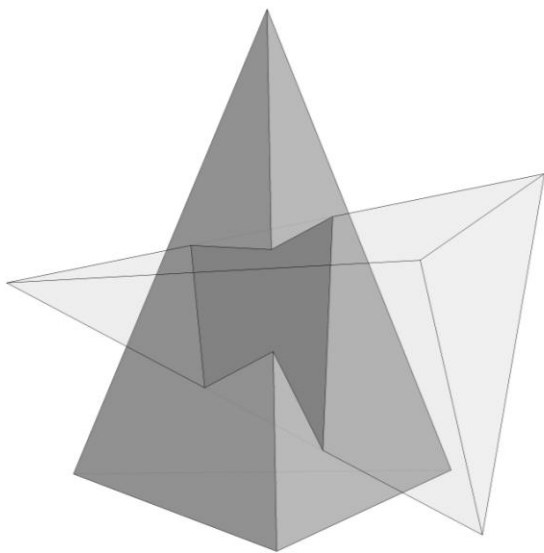


Sl. 2

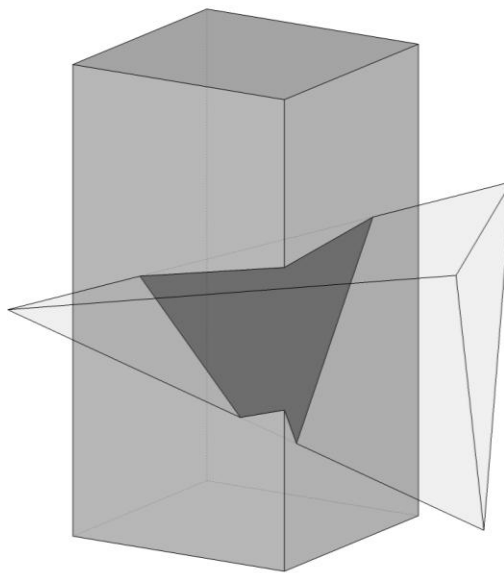


Prodori

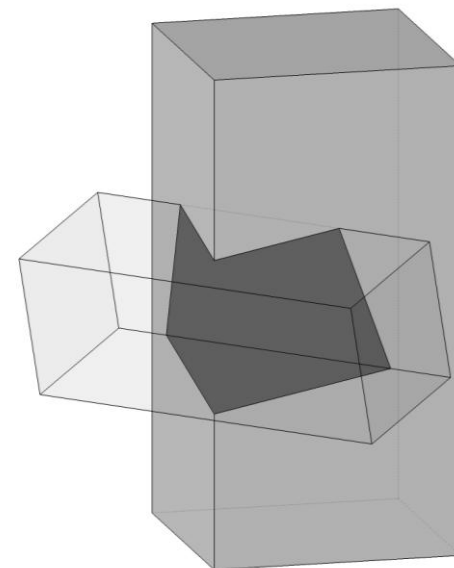
Sl. 3



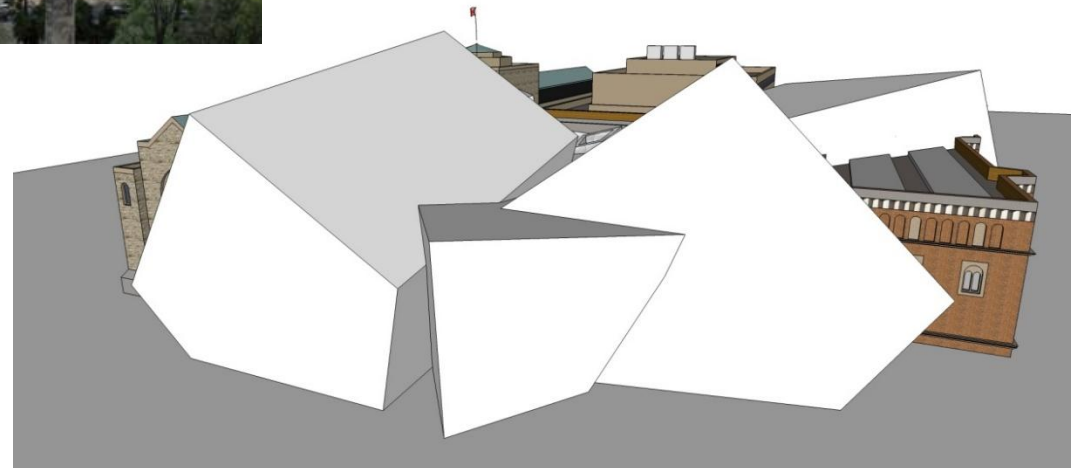
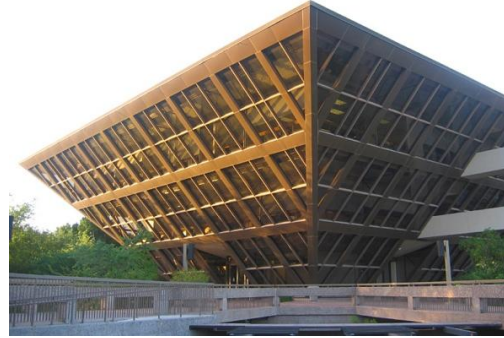
Sl. 4



Sl. 5



PRIMENA PIRAMIDA I PRIZMI U ARHITEKTURI





"Gyrotron" at La Ronde", Expo 67, Montreal, Kanada, arh. Sean Kenny 1967.g

Primena piramida u arhitekturi



Piramida , Muzej Luvr, Pariz, Francuska, arhitekta I. M. Pei, 1989.g



Ferrohaus, Ciri, Švajcarska, arh. Justus Dahinden, 2005.g



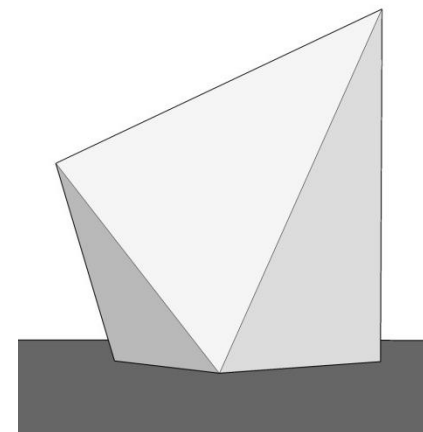
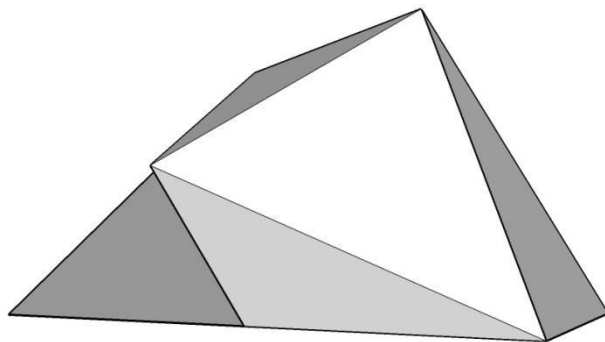
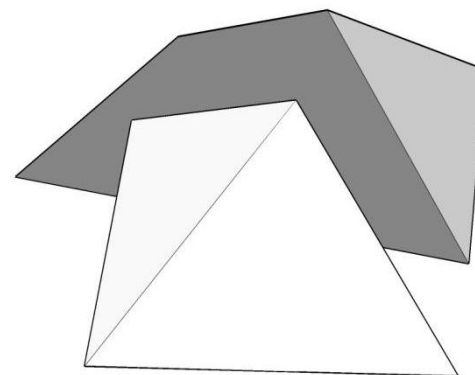
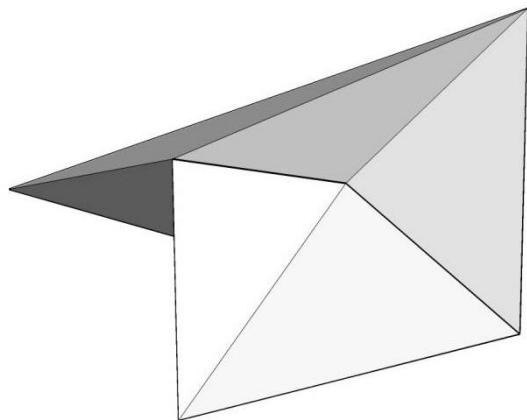
Tempe Municipal Building, Tempe, Arizona, SAD, arh. Majkl i Kemper Gudvin, 1970.g

Primena piramida u arhitekturi



Osnivački novi centar arhitecture, Southwark ulica, London, UK,
arh. Zaha Hadid, 2008.g

Primena piramida u arhitekturi



Osnivački novi centar arhitekture, Southwark ulica, London, UK,
arh. Zaha Hadid, 2008.g



Osnivački novi centar arhitecture, Southwark ulica, London, UK,
arh. Zaha Hadid, 2008.g



Škola Bauhaus, Dessau, Nemačka, arh. Walter Gropius, 1929.g



Primena prizmi u arhitekturi

Sigram zgrada, New York,
SAD, arh. Ludwig Mies van de
Rohe i Philip Johnson, 1958.g





Kuća Muzike, Porto, Portugal, arh. OMA, 2001.g



Austin gradska dvorana, Austin, Texas, SAD, arh. Antoine Predock, 2004.g

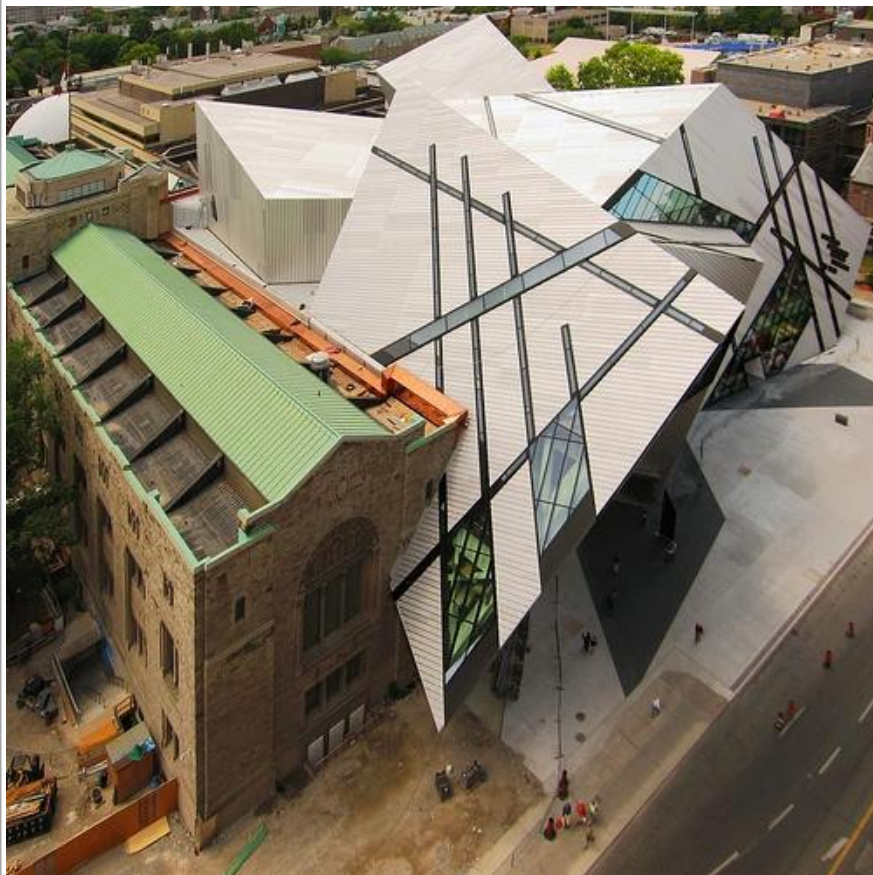


Zgrada centralne televizije, Peking, Kina, arh. Rem Koolhaas i Ole Scheeren, 2008.g



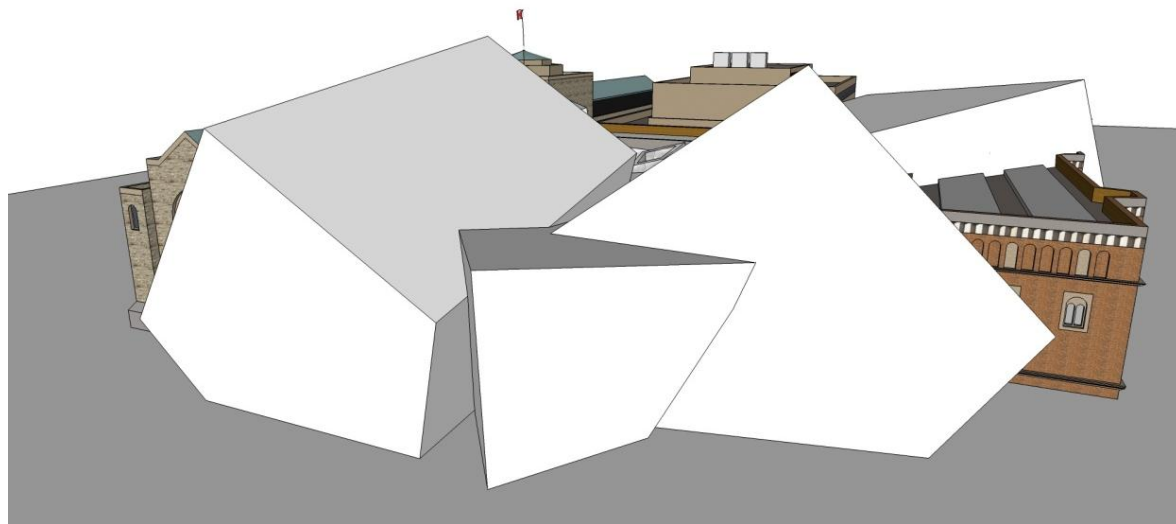
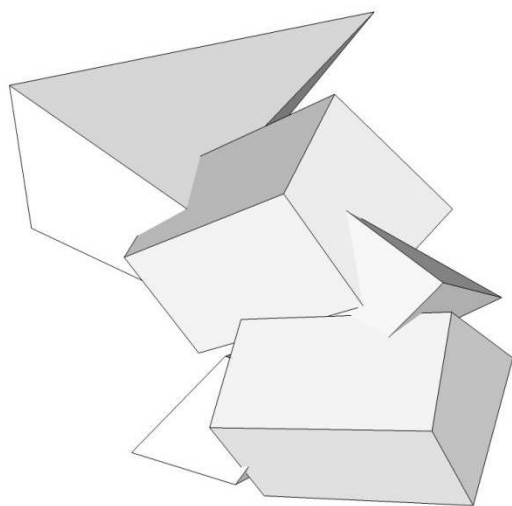
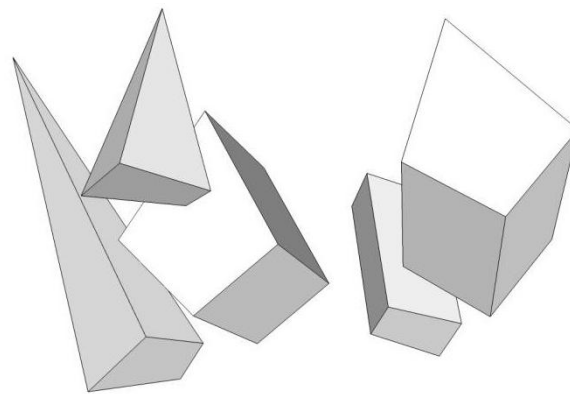
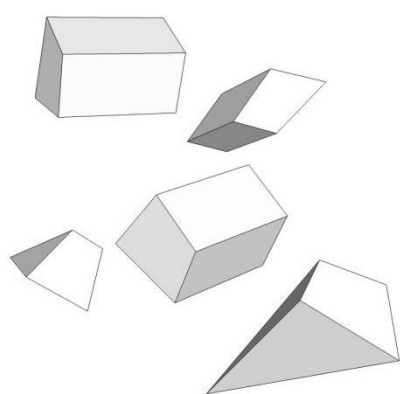
Industrijski objekat Parand, Arad, Iran, arh. ARAD co, 2008.g

Primena piramida i prizmi u arhitekturi



Michael Lee-Chin Crystal, Kraljevski Muzej Ontario, Toronto, Kanada, arh. DL Studio Daniel Libeskind, 2005.g

Primena piramida i prizmi u arhitekturi



Michael Lee-Chin Crystal, Kraljevski Muzej Ontario, Toronto,
Kanada, arh. *DL Studio Daniel Libeskind*, 2005.g

Primena piramida i prizmi u arhitekturi



Muzej umetnosti, Denver, Colorado, SAD, arh. Daniel Libeskind, 2006.g

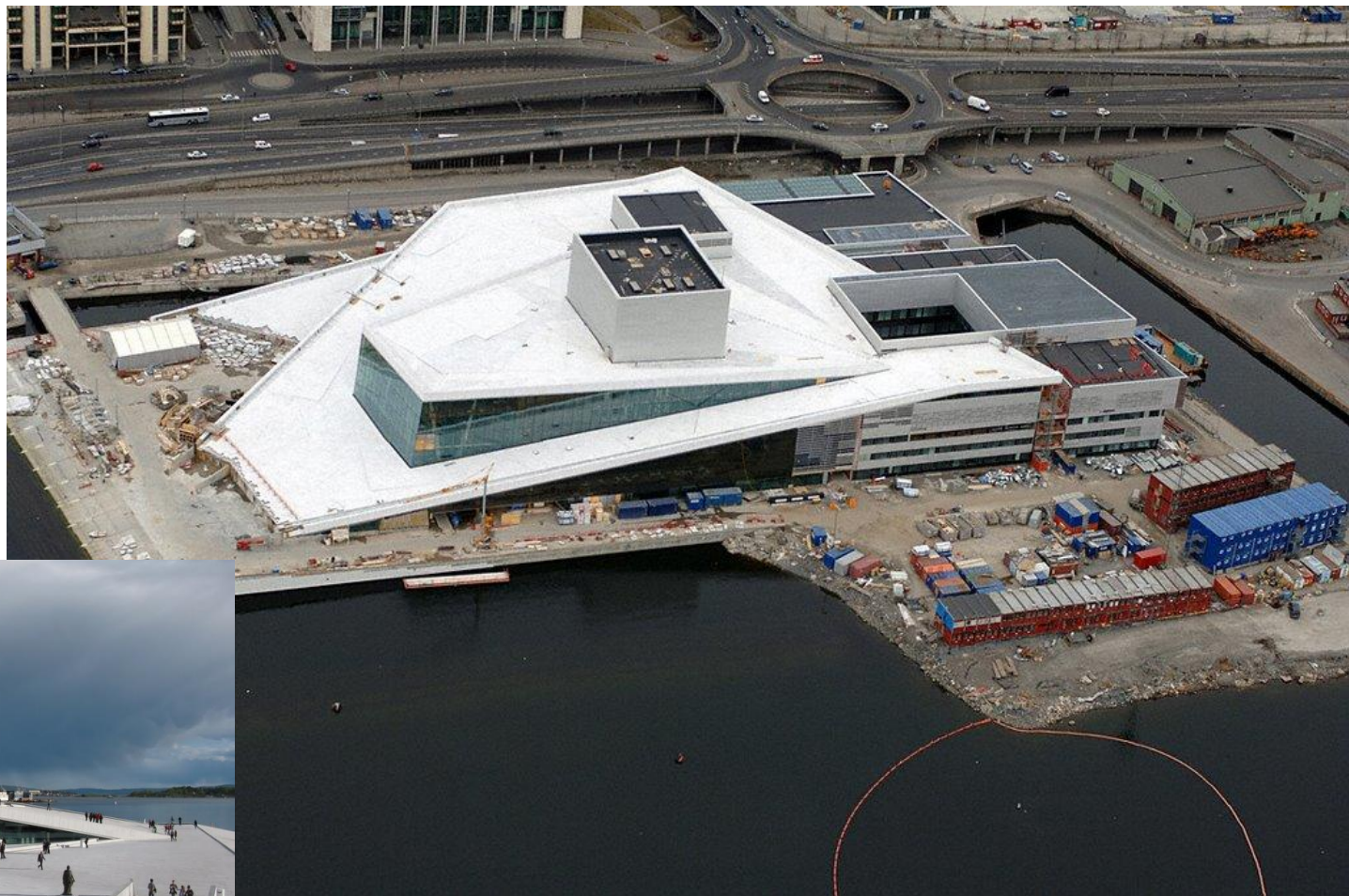
Primena piramida i prizmi u arhitekturi



Zgrada opere, Oslo, Norveška, arh. Snøhetta arkitektur landskap AS,
2009.g



Primena piramida i prizmi u arhitekturi



Zgrada opere, Oslo, Norveška, arh. Snøhetta arkitektur landskap AS, 2009.g.

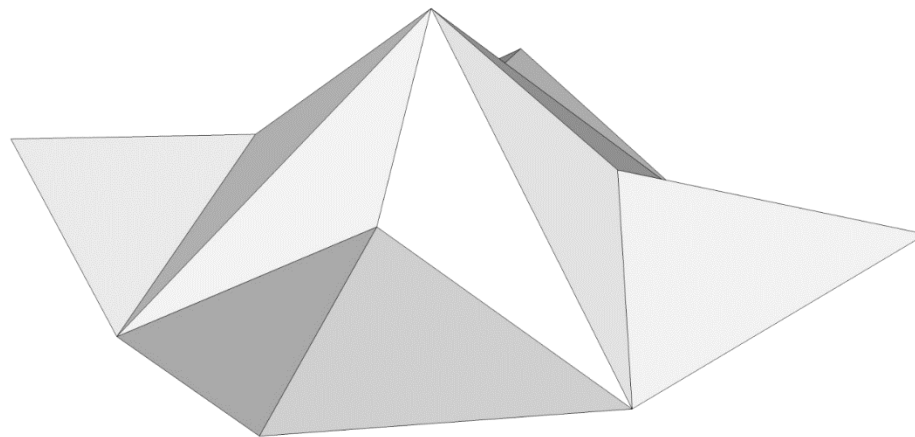
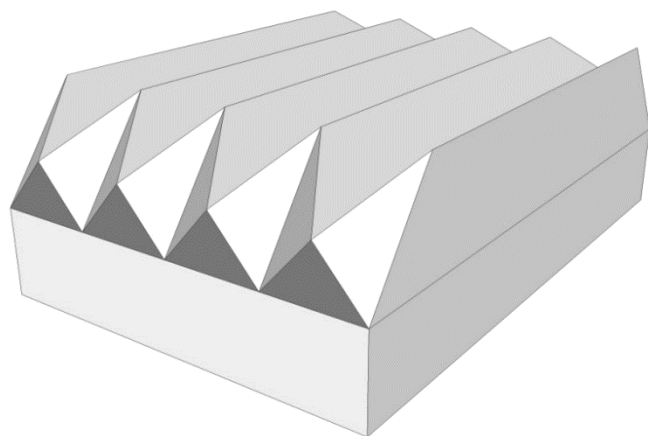
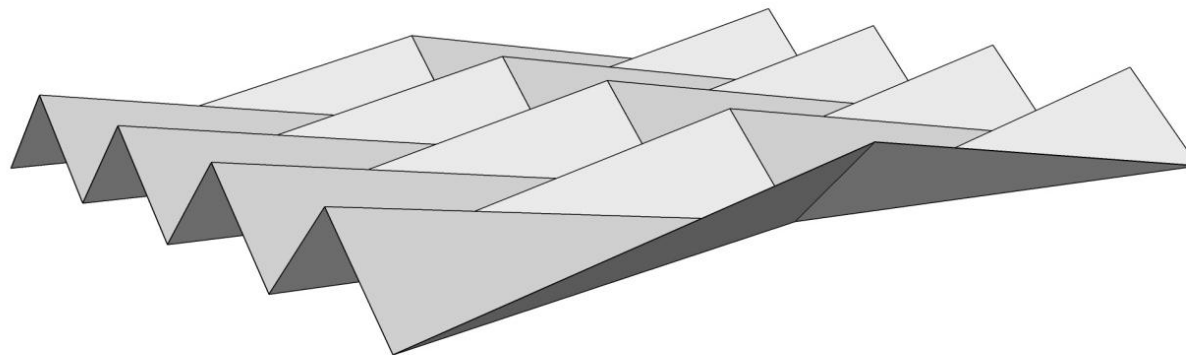


Primena piramida i prizmi u arhitekturi



Piramidalna kuća za odmor, Rejkjavik, Island

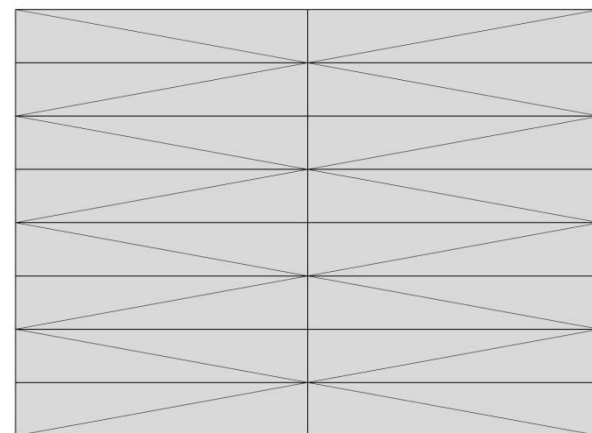
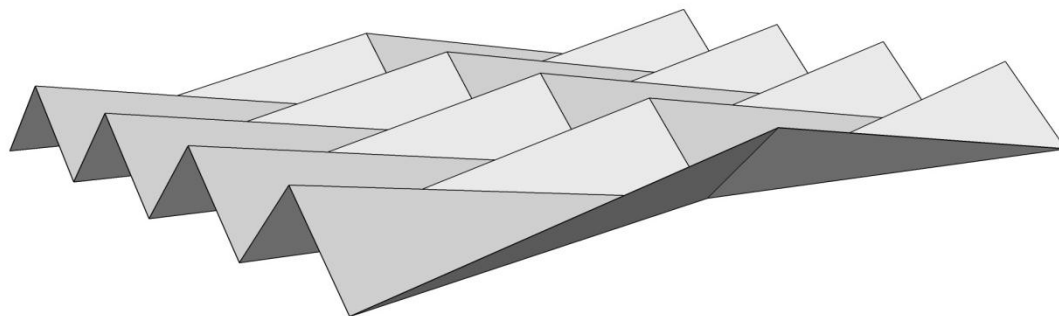
NABORANE KONSTRUKCIJE



Primena nabora iz delova piramide



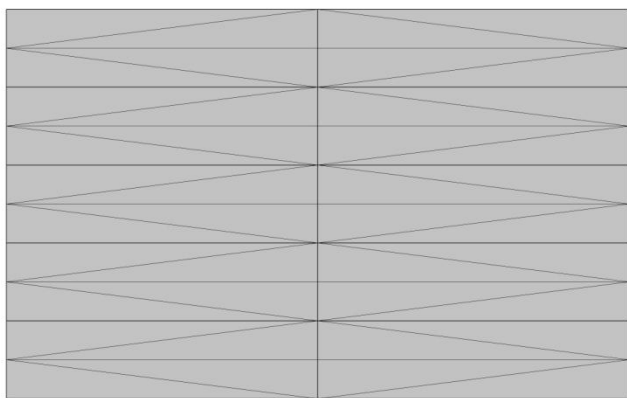
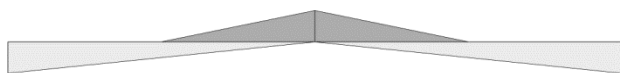
aksonometrija



osnova i izgledi

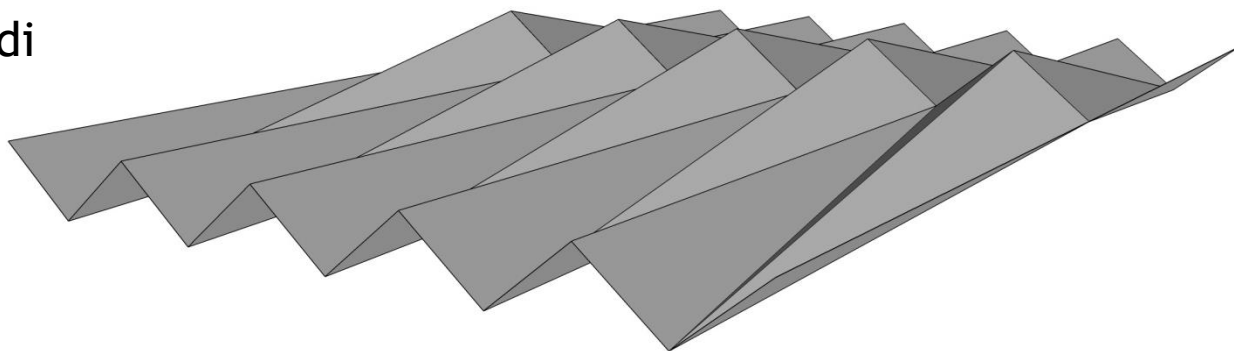
pravougaona osnova

Primena nabora iz delova piramide



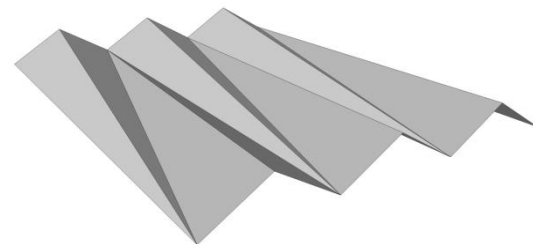
osnova i izgledi

aksonometrija

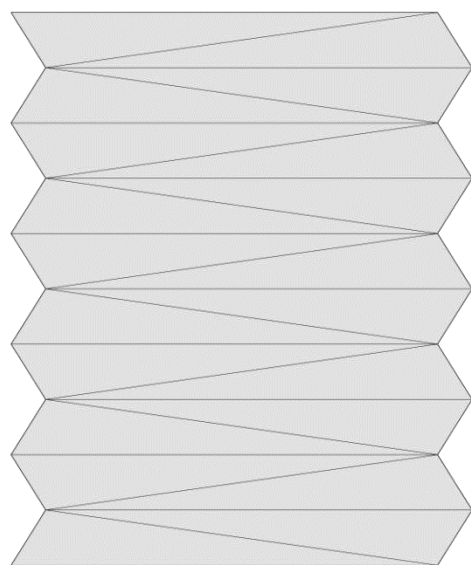


pravougaona osnova

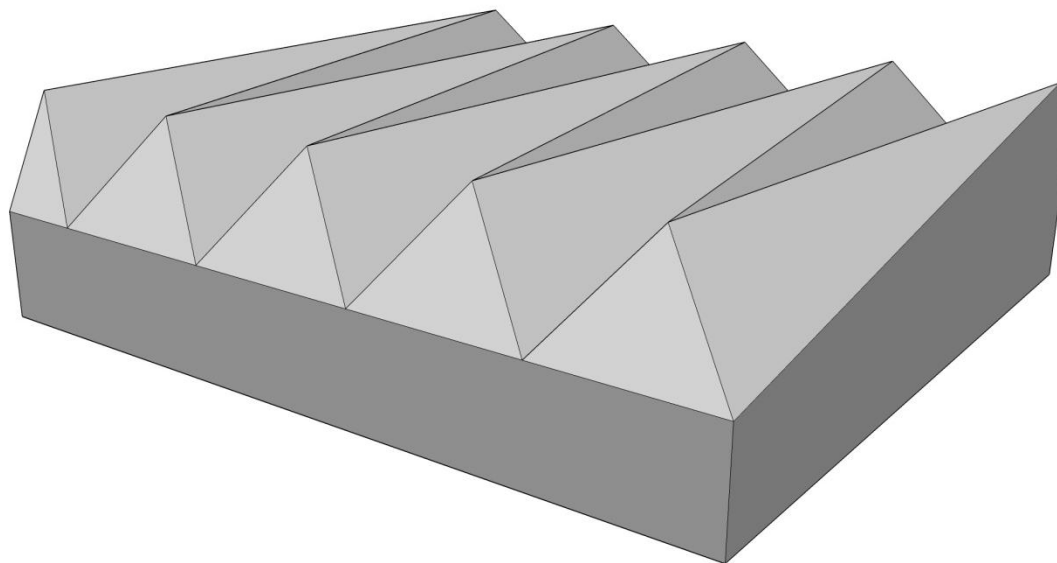
Primena nabora iz delova piramide



aksonometrija



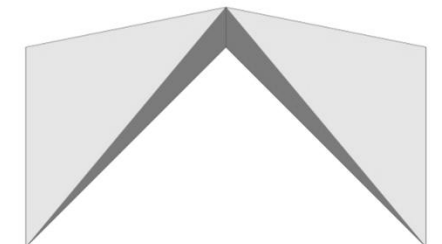
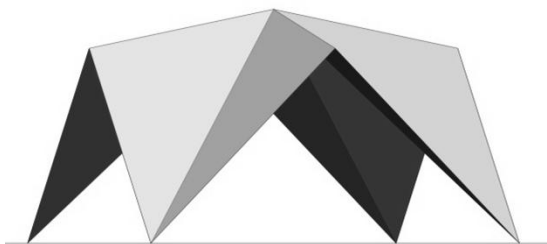
osnova i izgledi



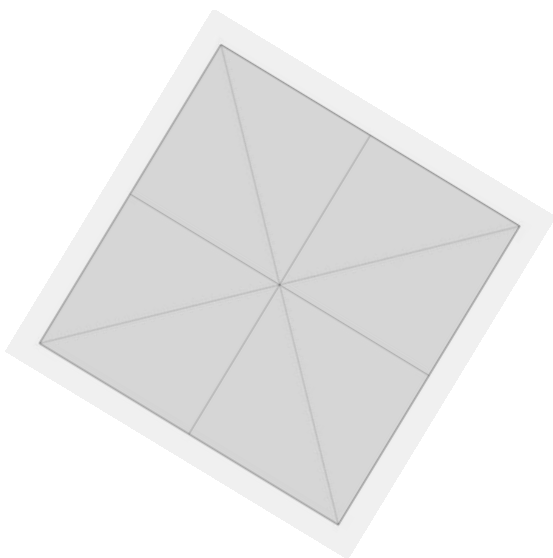
pravougaona osnova

Univerzitetna laboratorija, Tapagoa, Španija

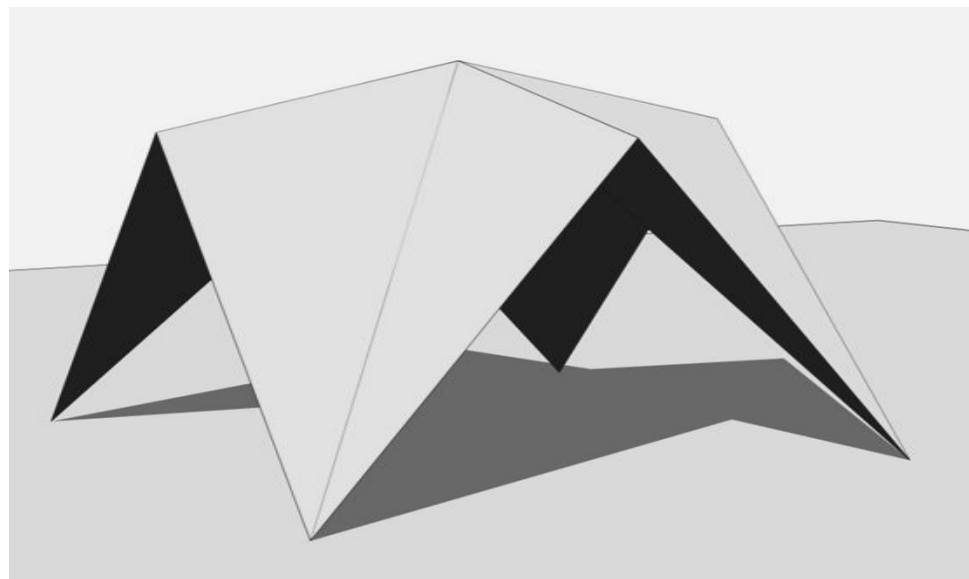
Primena nabora iz delova piramide



aksonometrija

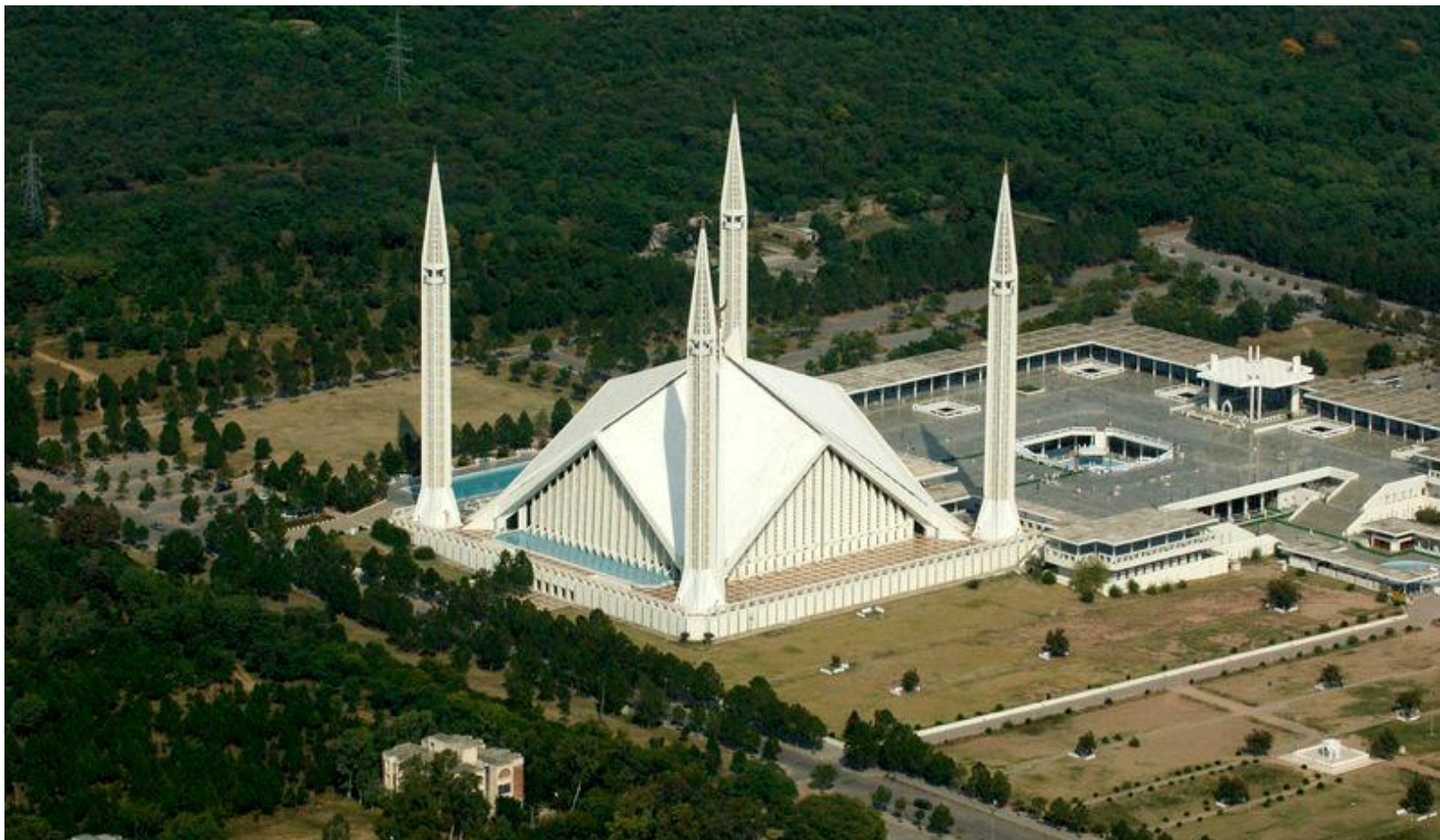


osnova i izgledi



kvadratna osnova

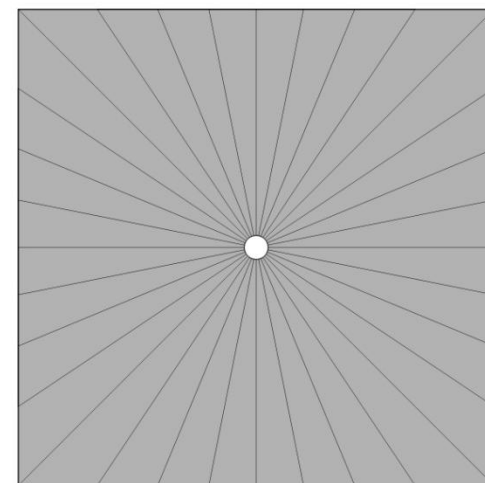
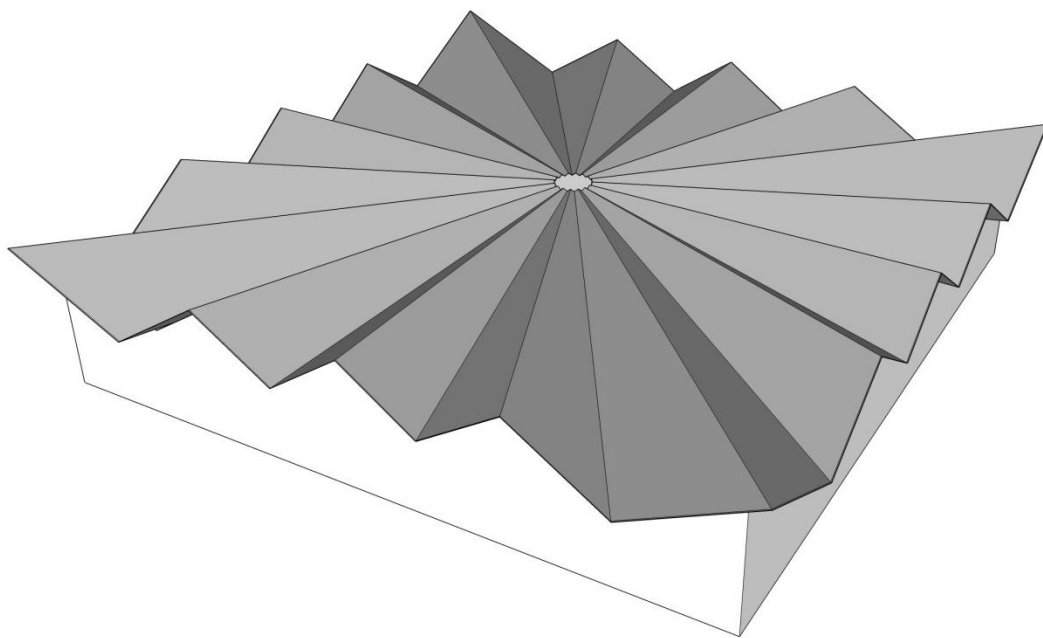
Primena nabora iz delova piramide



Džamija zadužbina kralja Fejsala, Islamabad, Pakistan, arh. Vedet Dalokaj, 1986.g.

Primena nabora iz delova piramide

aksonometrija

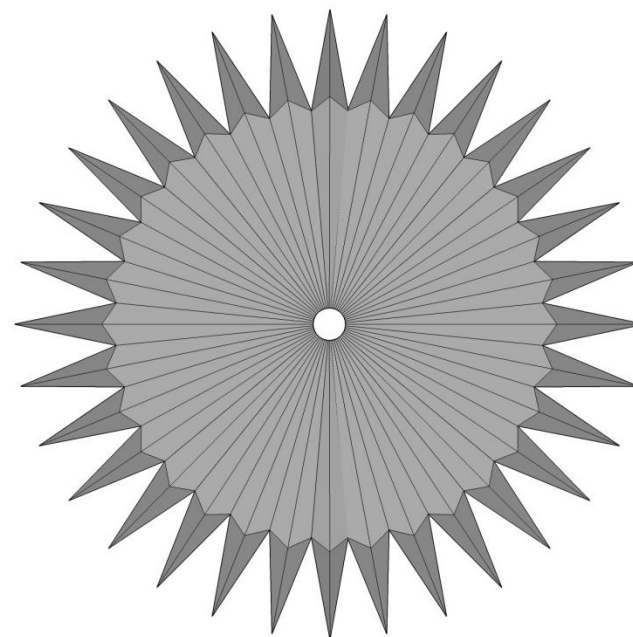
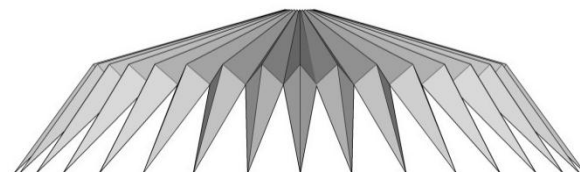
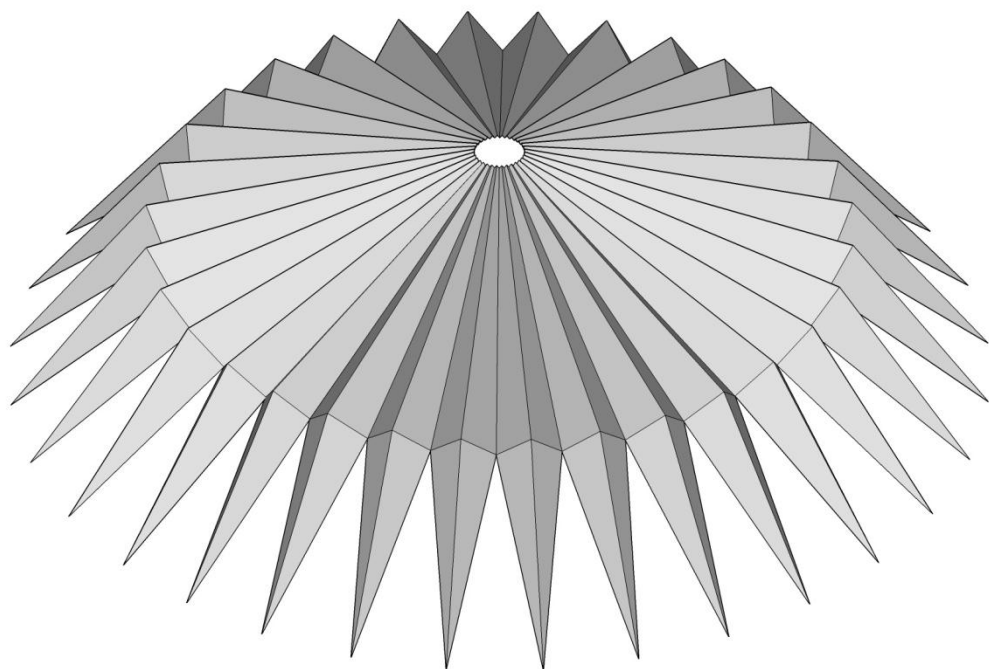


osnova i izgled

kvadratna osnova

Primena nabora iz delova piramide

aksonometrija

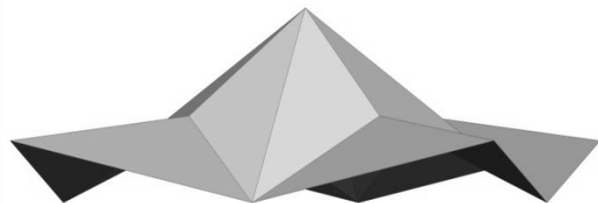


osnova i izgled

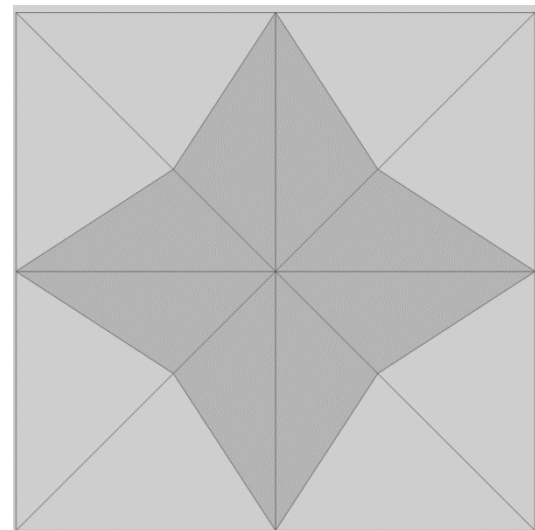
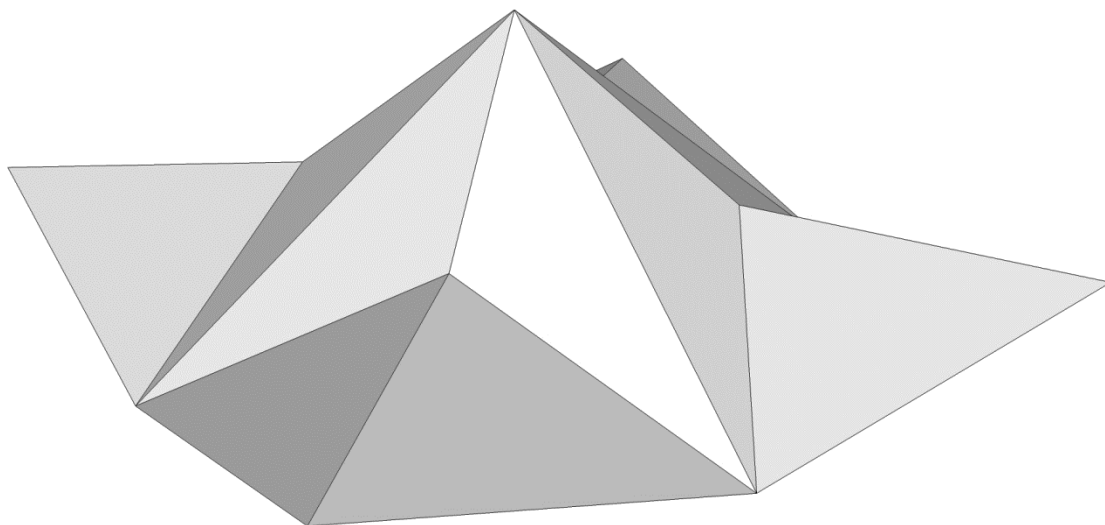
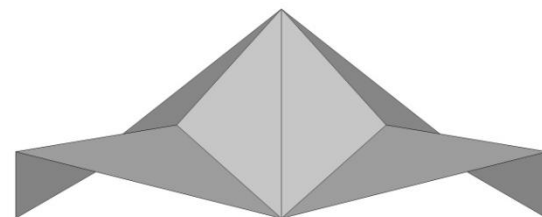
kružna osnova

Primena nabora iz delova piramide

Nabori nastali prodorom piramida



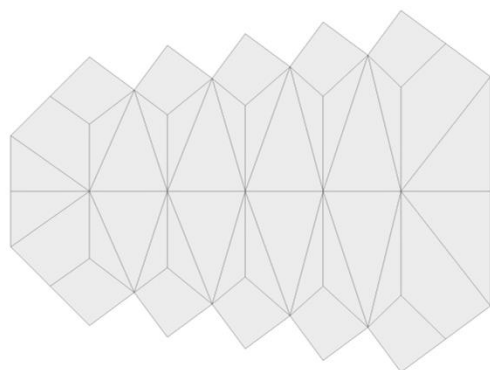
aksonometrija



osnova i izgledi

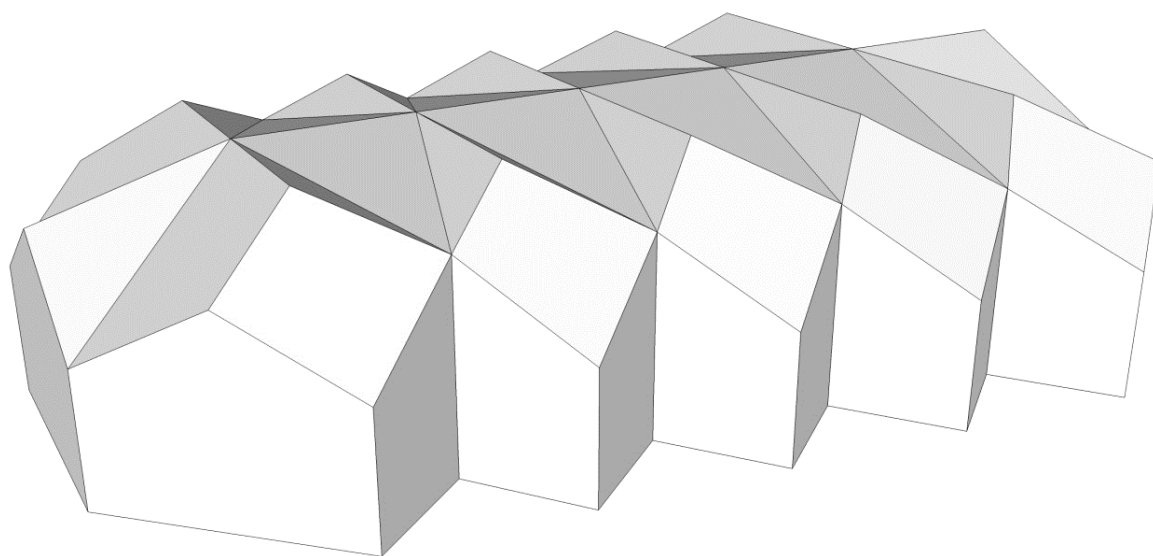
kvadratna osnova

Primena nabora iz delova piramide



osnova i izgled

aksonometrija



Hristova crkva u Bohumu,
Nemačka, arh. D. Oesterle

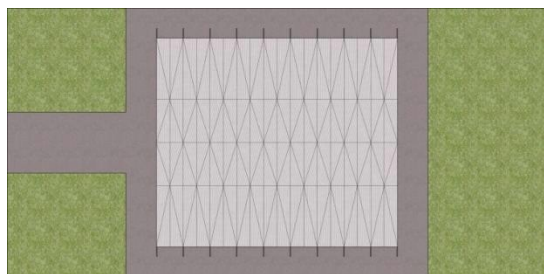
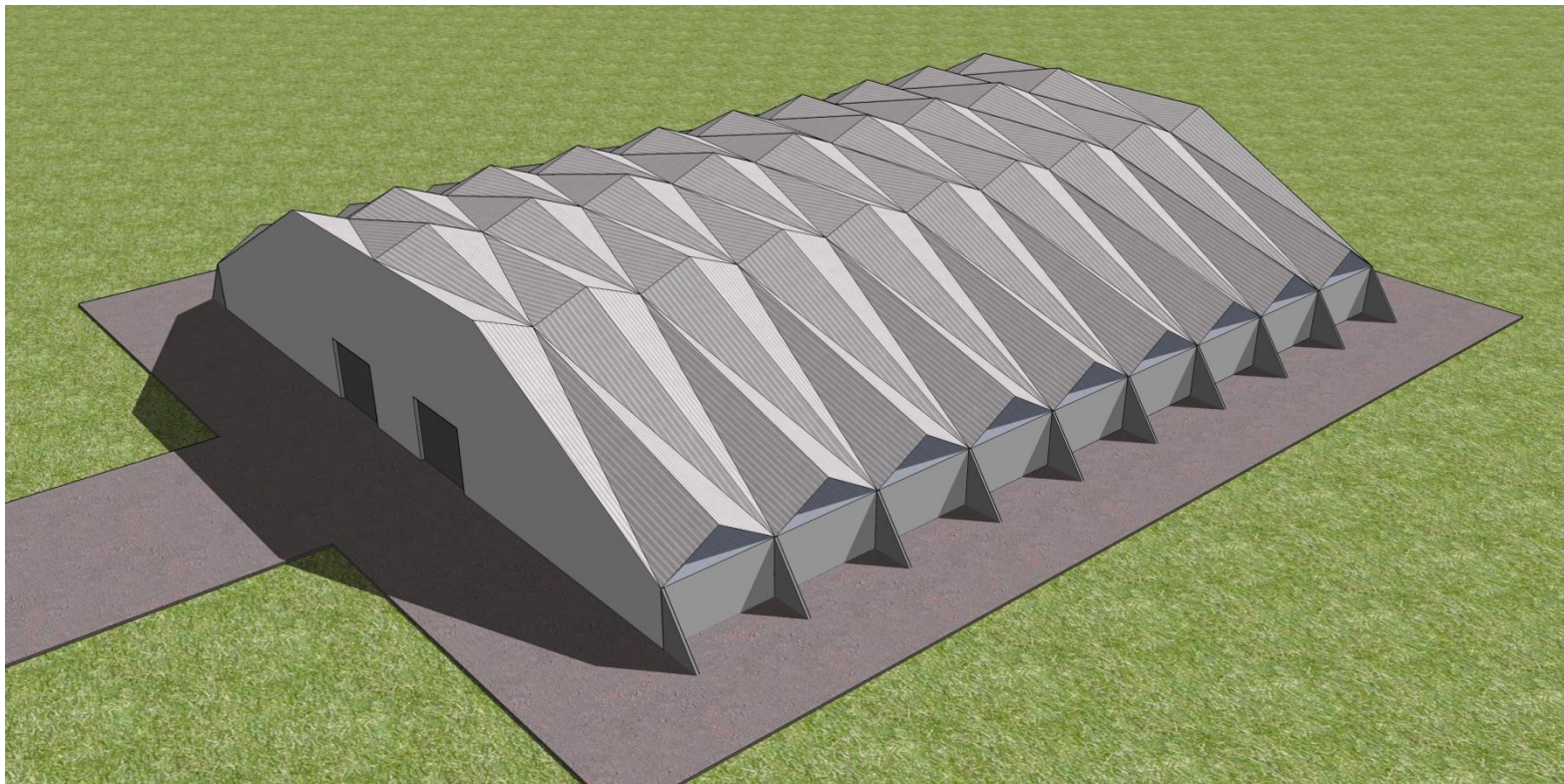
osnova konkavni mnogougao

Primena nabora iz delova piramide



Hristova crkva, Bohum, Nemačka, arh. D. Oesterle

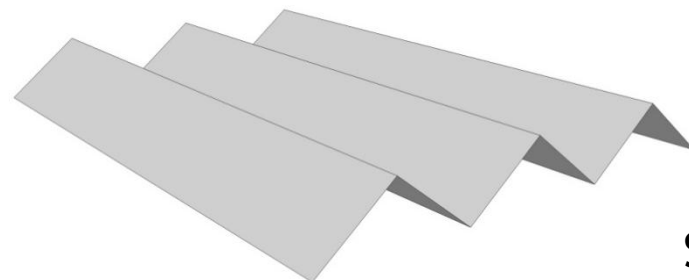
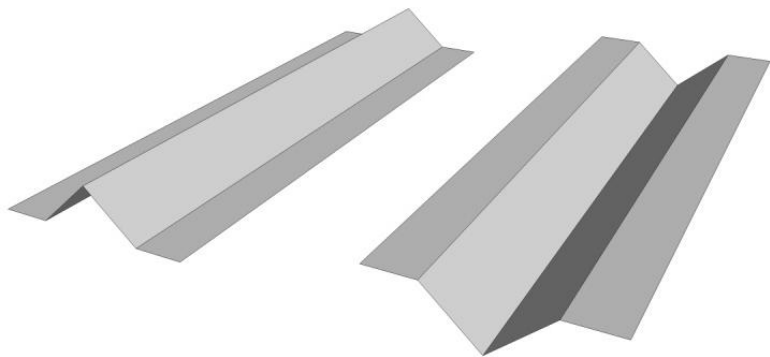
Primena nabora iz delova piramide



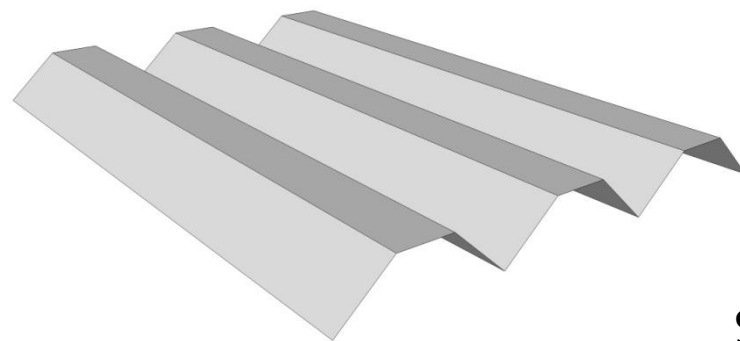
Sportska dvorana, Pavija, Italija

Primena nabora iz delova prizmi

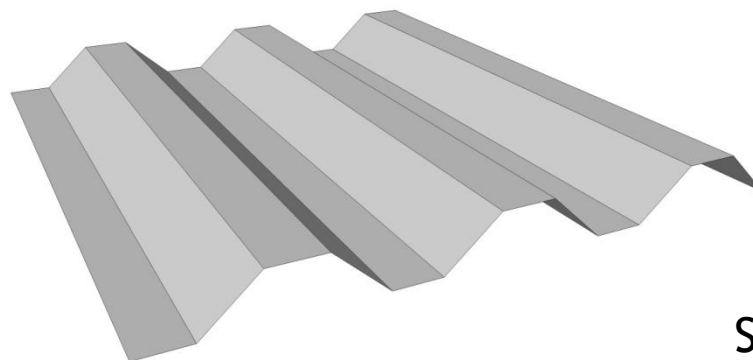
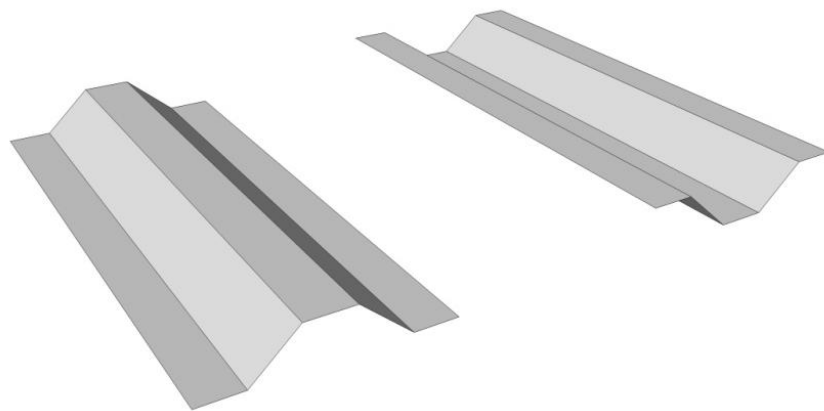
aksonometrija



Sl.1



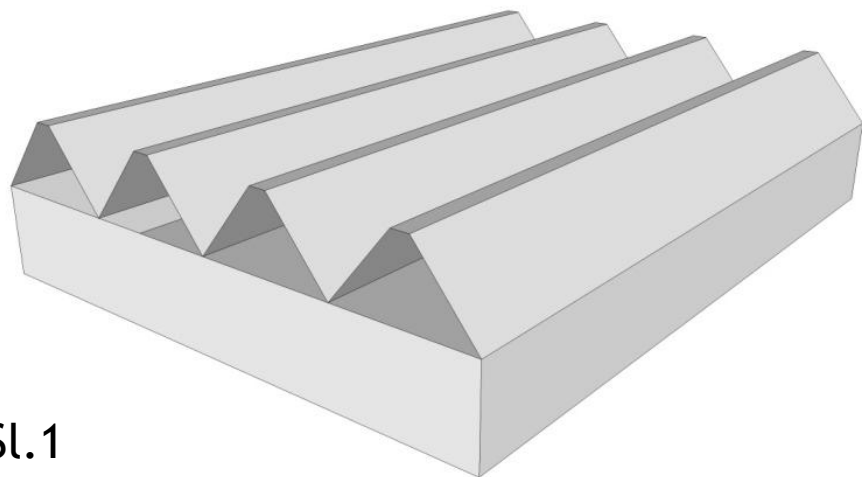
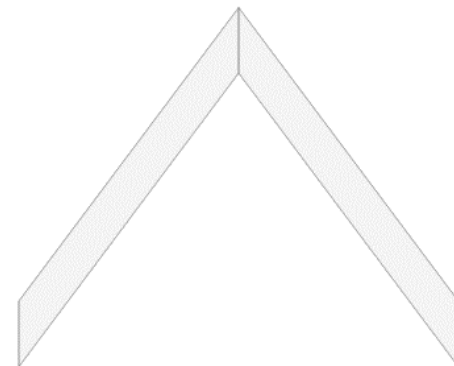
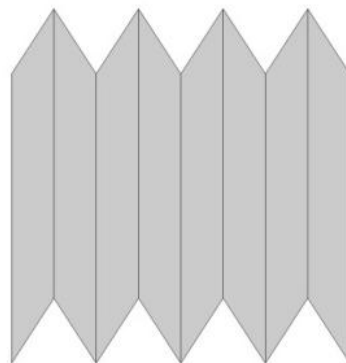
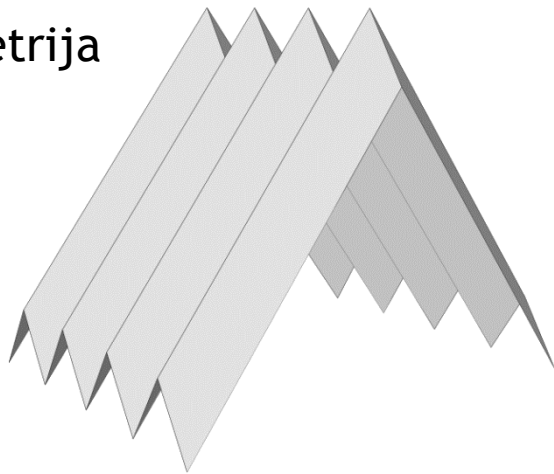
Sl.2



Sl.3

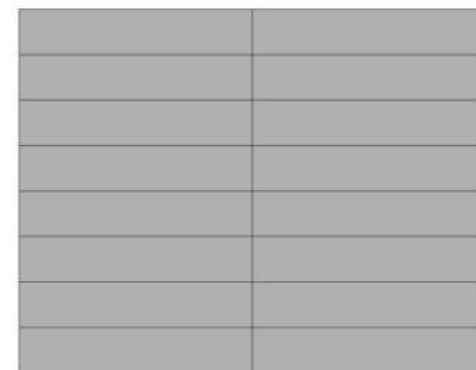
Primena nabora iz delova prizmi

axonometrija



Sl.1

pravougaona osnova

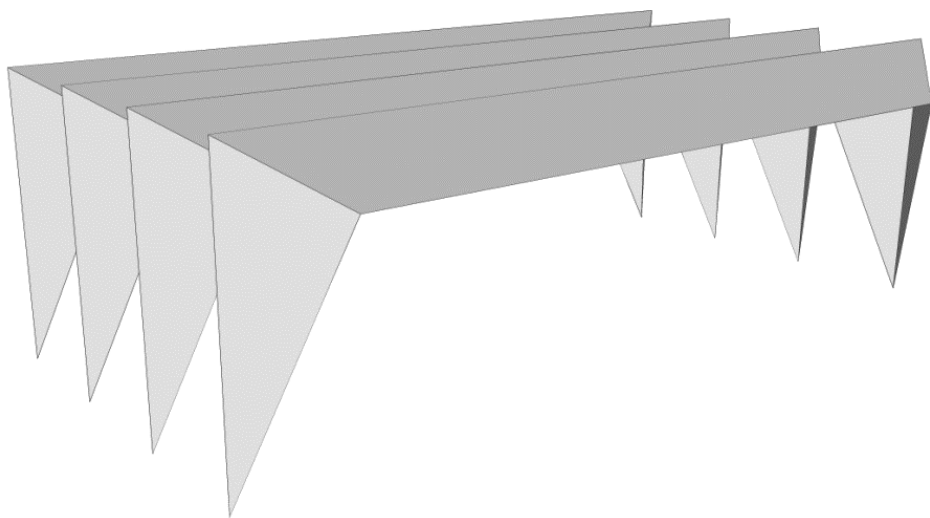
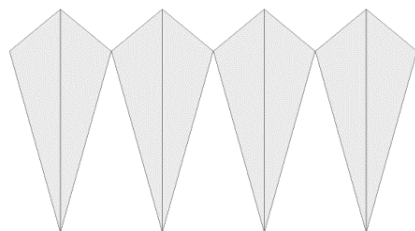


osnova i izgledi

Sl.2

Primena nabora iz delova piramida i prizmi

aksonometrija

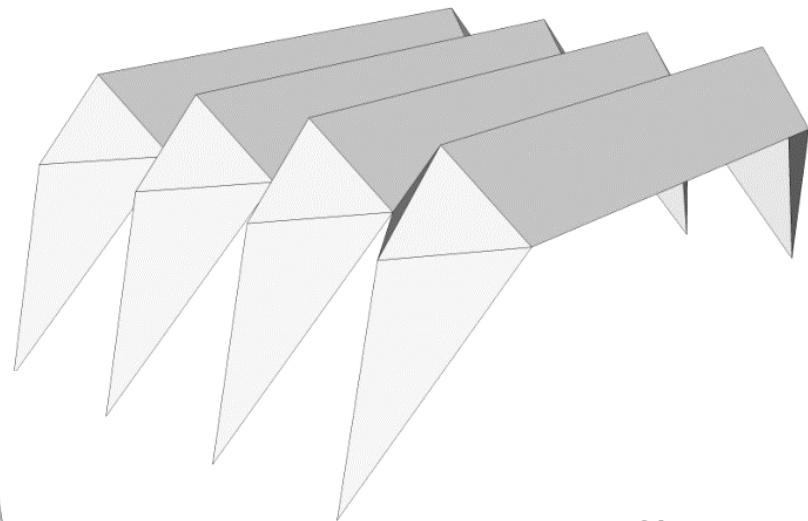


osnova i izgledi

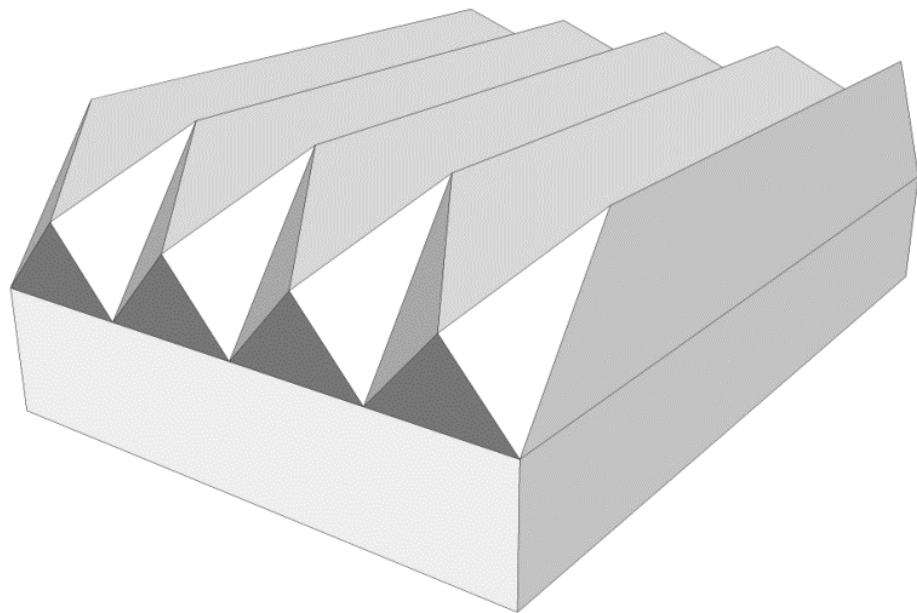
pravougaona osnova

Primena nabora iz delova piramida i prizmi

aksonometrija



Sl.1

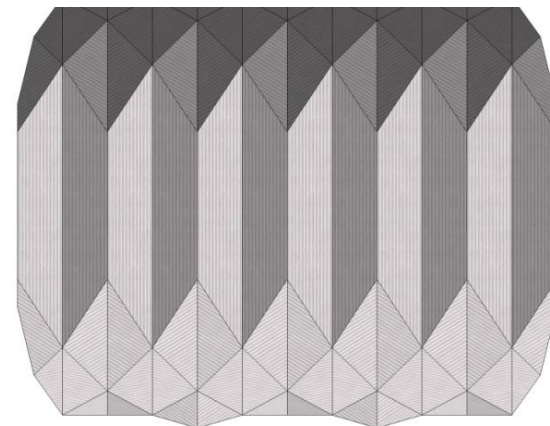
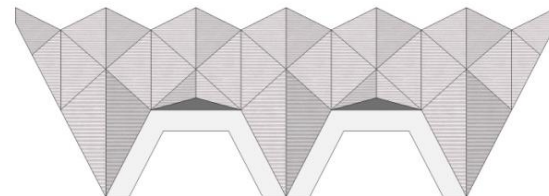
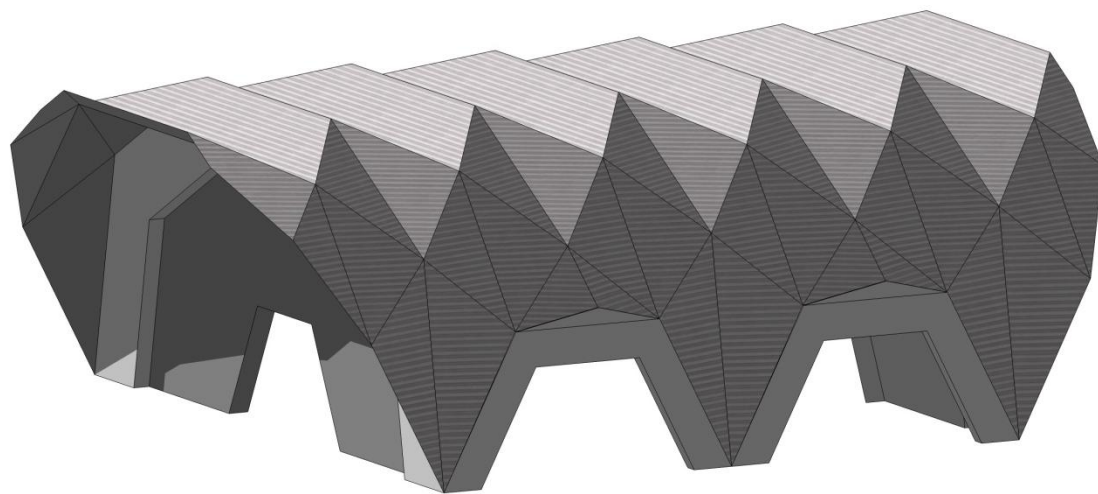


Sl.2

pravougaona osnova

Primena nabora iz delova piramida i prizmi

aksonometrija



osnova i izgled

Paviljon, Venecuela, arh. A Pietri

pravougaona osnova

Primena nabora od piramida i prizmi u arhitekturi



Kapela vazduhoplovne Akademije, Kolorado Springs, SAD, arh. Walter Netsch, 1963.g.



Primena nabora od piramida i prizmi u arhitekturi

CSET zgrada, Ningbo,
Kina, arh. Mario
Cucinela, 2008.g.





Primena nabora od piramida i prizmi u arhitekturi

Jimbocho pozorište,
Tokio, Japan, arh.
Nikken Sekkei group,
2008.g.





Primena nabora od piramida i prizmi u arhitekturi

Hotel Puerta America,
Madrid, Španija, arh.
Plasma studio, 2005.g.



Primena nabora od piramida i prizmi u arhitekturi



Nestlé muzej čokolade, Mexico City, Meksiko, arh. Rojkind Arquitectos, 2007.g.



Kirishima koncertna dvorana, Aira, Kagoshima, Japan, arh. Fumihiko Maki, 1994.g.

Primena nabora od piramida i prizmi u arhitekturi



Sedište kompanije Vodafone, Porto, Portugal, arh. Barbosa & Guimarães Arquitectos, 2009.g.



Primena nabora od piramida i prizmi u arhitekturi

Max Reinhardt zgrada, Berlin,
Nemačka, arh. Peter
Eiseneman, 1995.g.





Kanadski paviljon, svetska izložba u Šangaju, Kina, 2010.g.



PIRAMIDE

- vrh - tačka S
- bazis - pravilni ili nepravilni poligon d
- izvodnica g

PRIZME

- vrh - tačka S_{∞}
- dva bazisa - pravilni ili nepravilni poligoni d
- paralelne izvodnice g

Prema bazisu:

pravilne (pravilan mnogougao)

nepravilne (nepravilan mnogougao)

Prema broju strana poligona:

trostrane

četvorostrane

više strane

Prema položaju ose prema ravni bazisa:

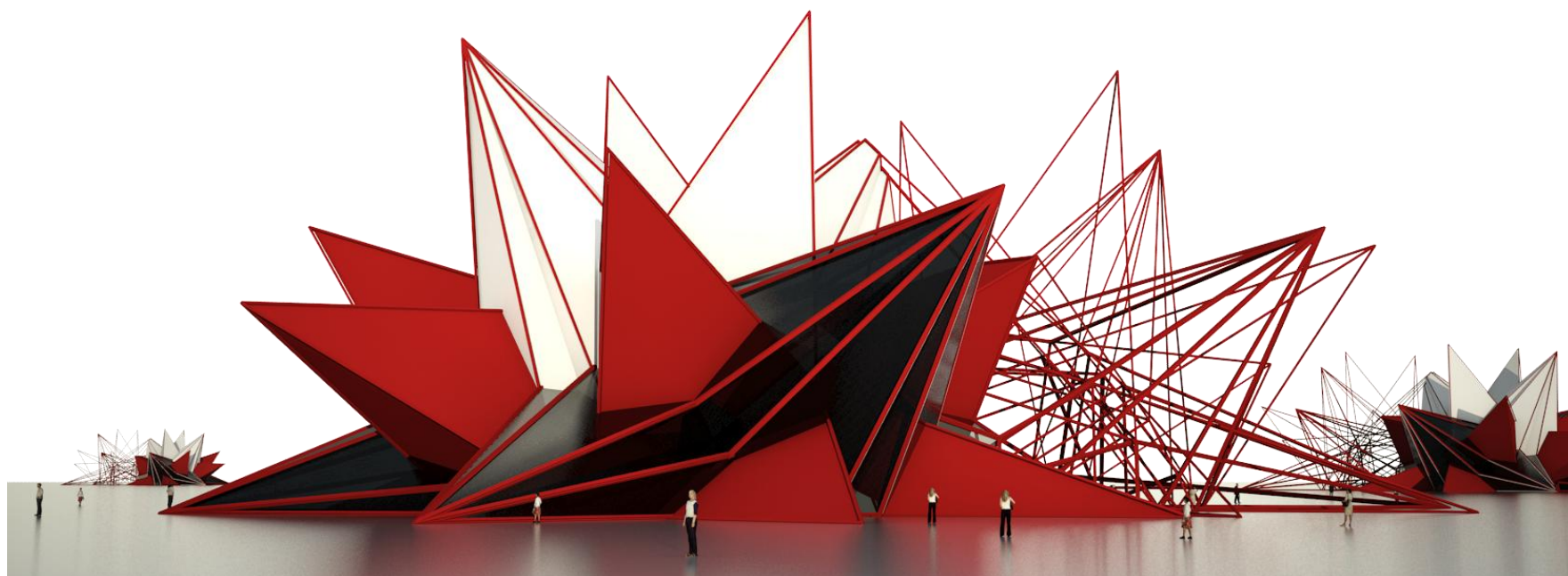
prave (osa upravna na ravan bazisa)

kose (osa nije upravna na ravan bazisa)



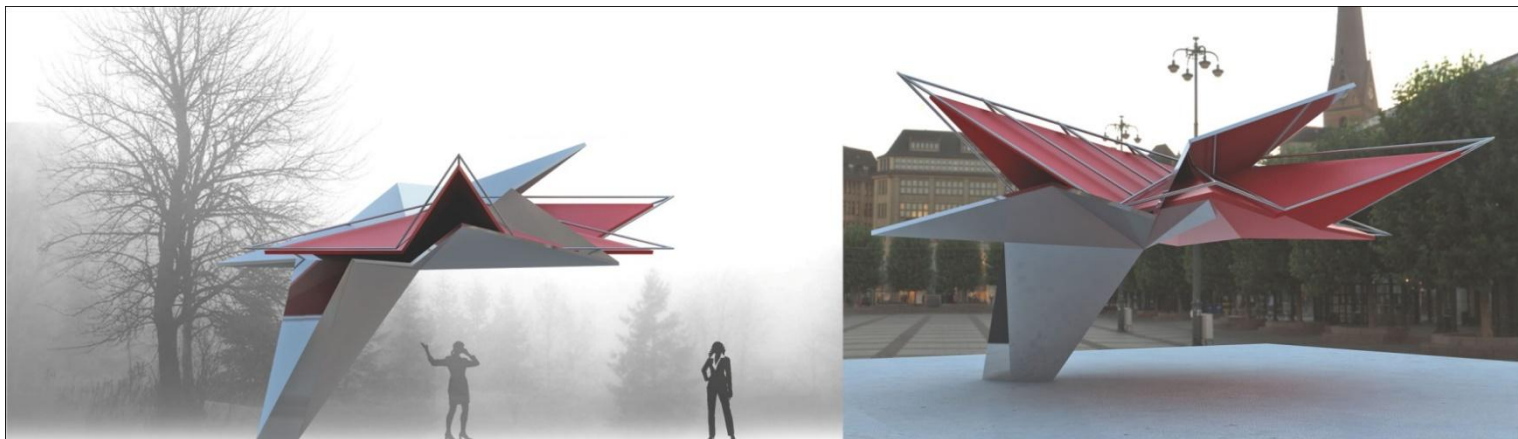
Studentski grafički radovi

Primena nabora iz delova piramida i prizmi u arhitekturi



Tamara Manojlović, grafički rad, student, generacija 2009/10

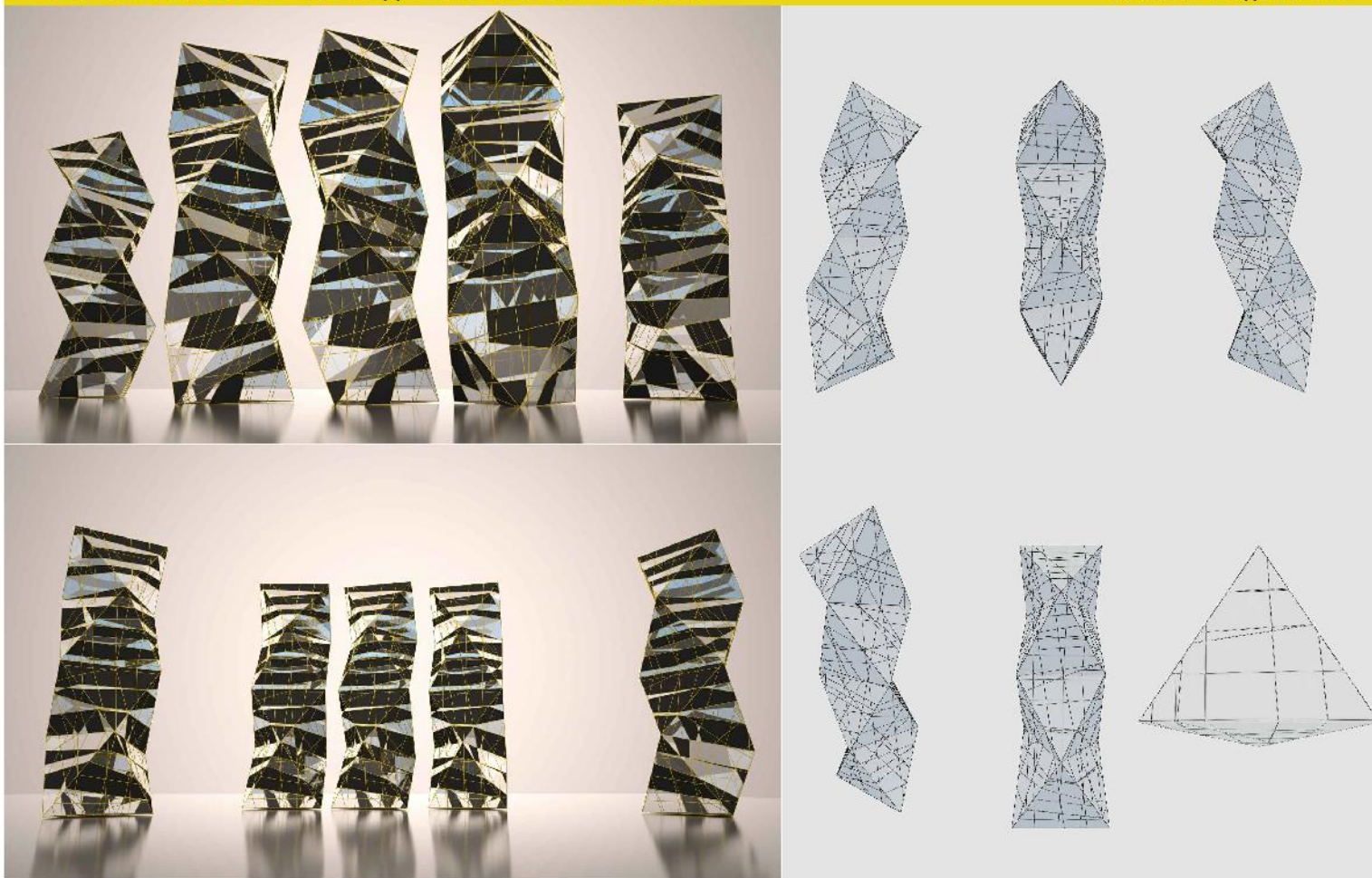
Primena nabora iz delova piramida i prizmi u arhitekturi



Primena nabora iz delova piramida i prizmi u arhitekturi

2. ВЕЖБА ПОЛИЕДАРСКЕ ПОВРШИ - ПРИЗМА

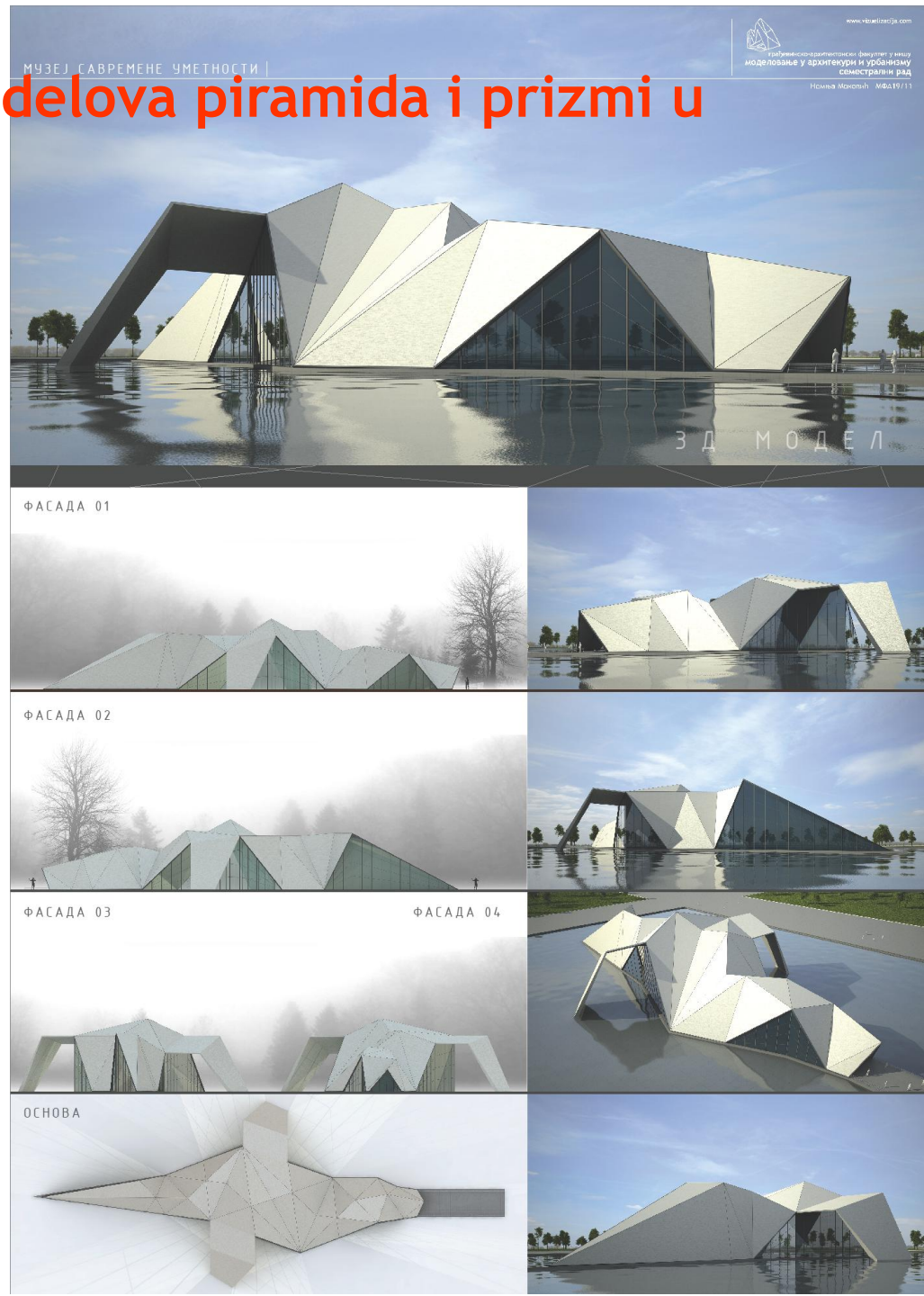
Професор: Соња Крисић
Асистент: Владан Николић



Грађевинско-архитектонски факултет у Нишу
Геометријске површи у архитектури
Јована Јованчић МФА 25/11

Jovana Jovančić, grafički rad, student, generacija 2010/11

Primena nabora iz delova piramida i prizmi u arhitekturi



Nemanja Moković, grafički
rad student, generacija
2010/11

Primena piramida i prizmi u arhitekturi

ГРАЂЕВИНСКО - АРХИТЕКТОНСКИ ФАКУЛТЕТ У НИШУ



ГЕОМЕТРИЈСКЕ ПОВРШИ У АРХИТЕКТУРИ

ПРОФЕСОР: ДОЦ. ДР СОЊА КРАСИЋ

АСИСТЕНТ: ВЛАДАН НИКОЛИЋ

СТУДЕНТ: ДРАГАНА МИХАЈЛОВИЋ МРА 153/10
предња фасада



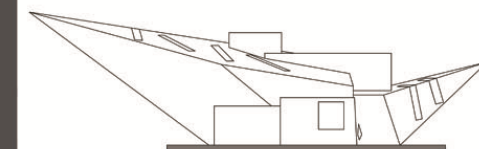
бочна фасада



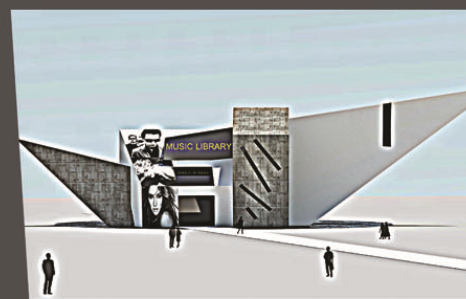
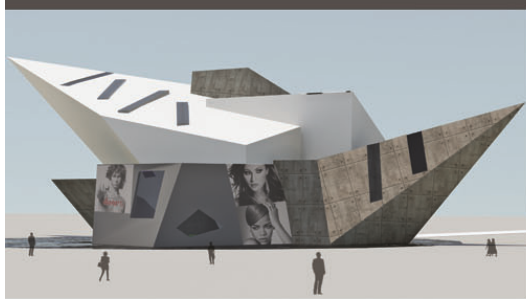
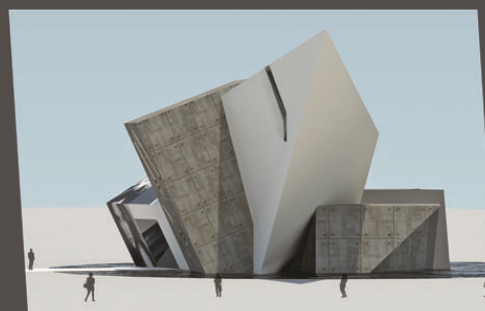
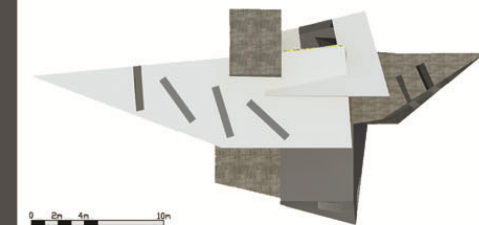
бочна фасада



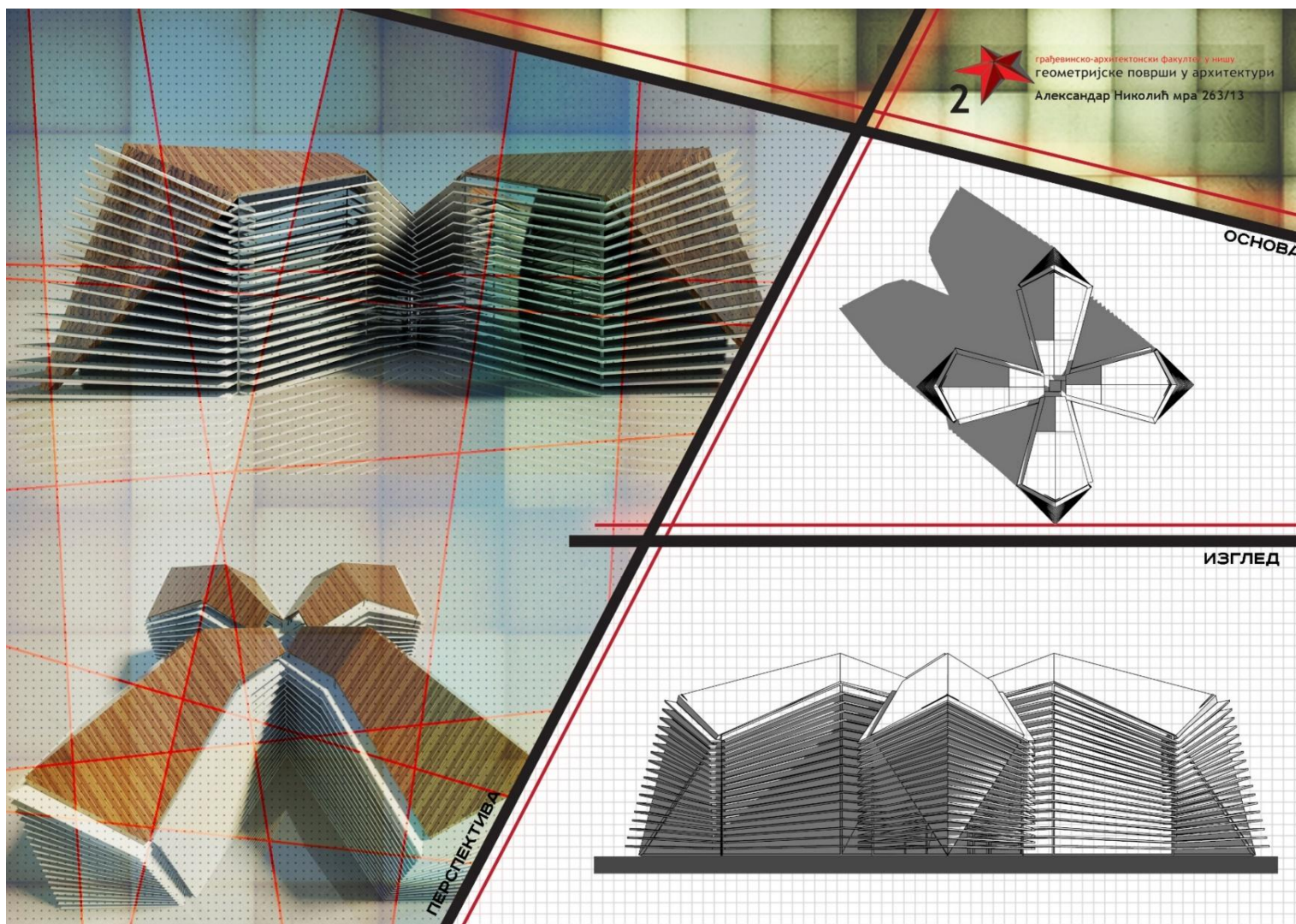
задња фасада



основа кровних равни

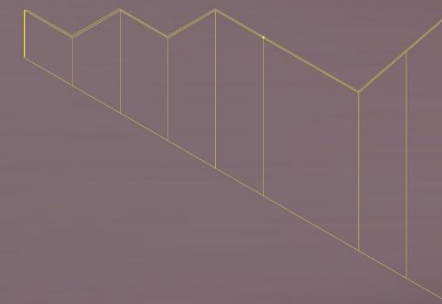


Primena nabora iz delova piramida i prizmi u arhitekturi

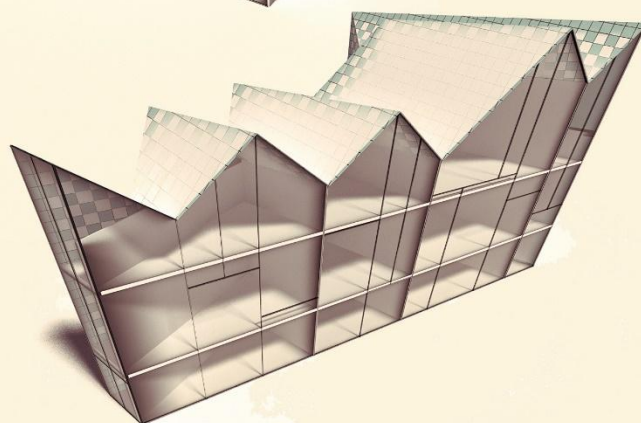


Aleksandar Nikolić, grafički rad, student, generacija 2013/14

Primena nabora iz delova piramida i prizmi u arhitekturi



ADMINISTRATIVNA ZGRADA



02



грађевинско-архитектонски факултет у нишу
геометријске површи у архитектури

Душан Голубовић МРА 282

Dušan Golubović, grafički rad, student, generacija 2013/14

Primena nabora iz delova piramida i prizmi u arhitekturi

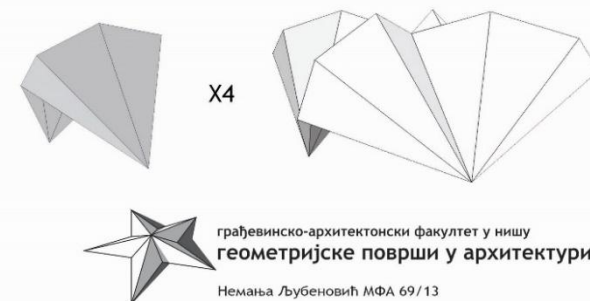
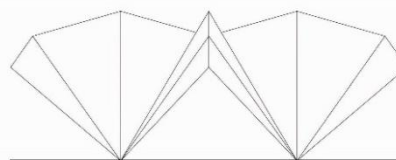
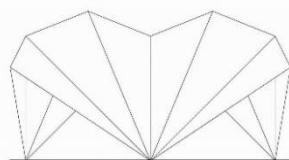
НАБОРИ - 02



ФРОНТАЛНИ ПОГЛЕД

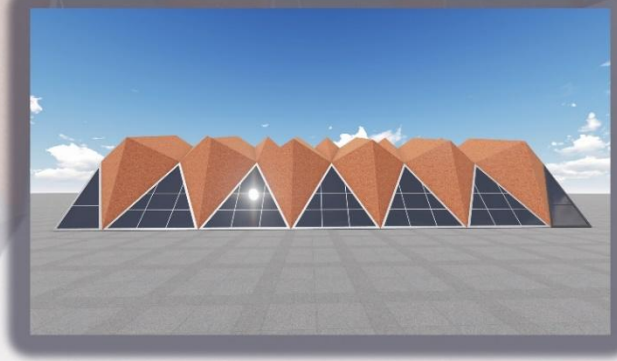
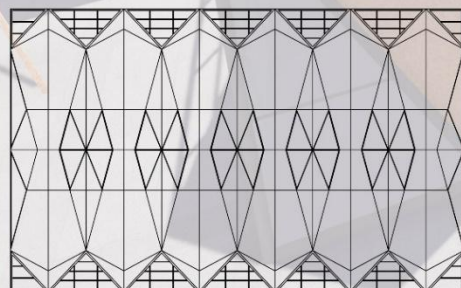
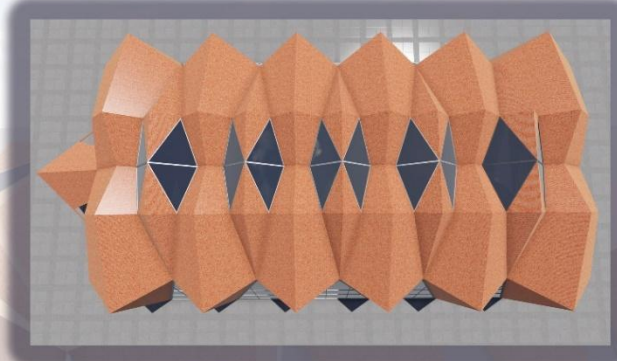
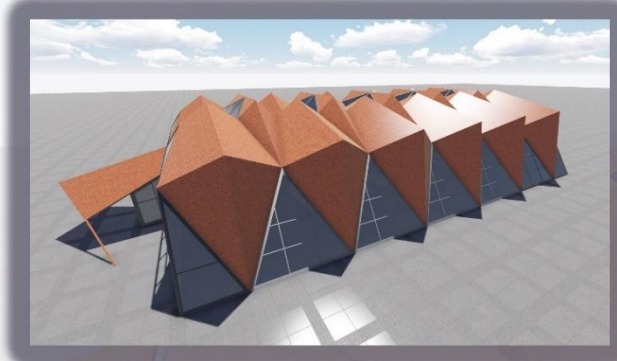
ПОГЛЕД СА СТРАНЕ

ШЕМАТСКИ 3Д ПРИКАЗ



Nemanja Ljubenović, grafički rad, student, generacija 2013/14

Primena nabora iz delova piramida i prizmi u arhitekturi



02

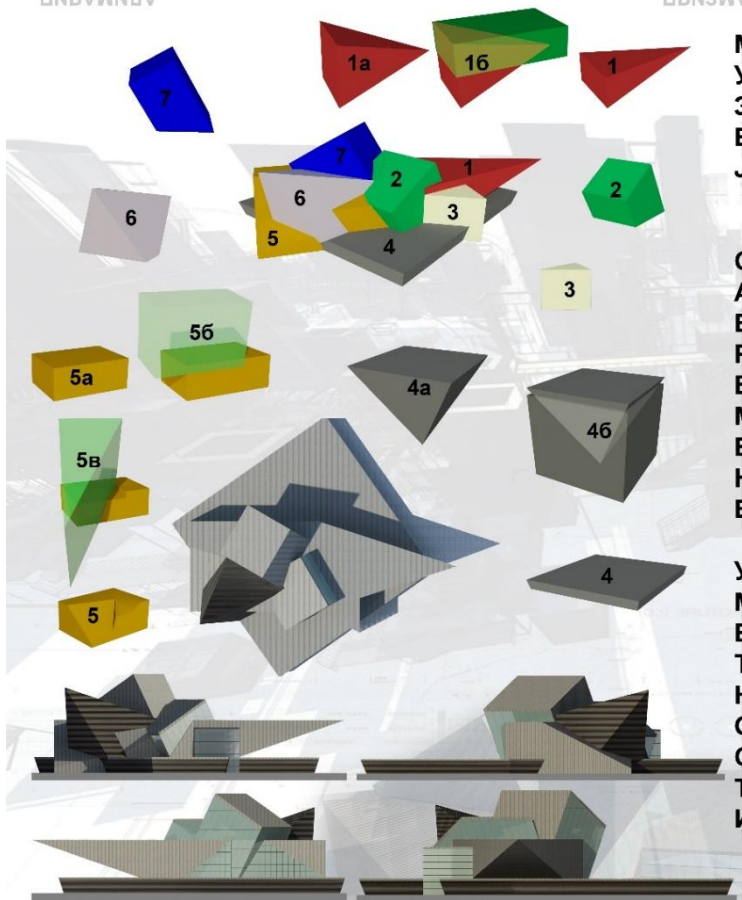


грађевинско-архитектонски факултет у нишу
геометријске површи у архитектури
Немања Вељковић МРА 302/13

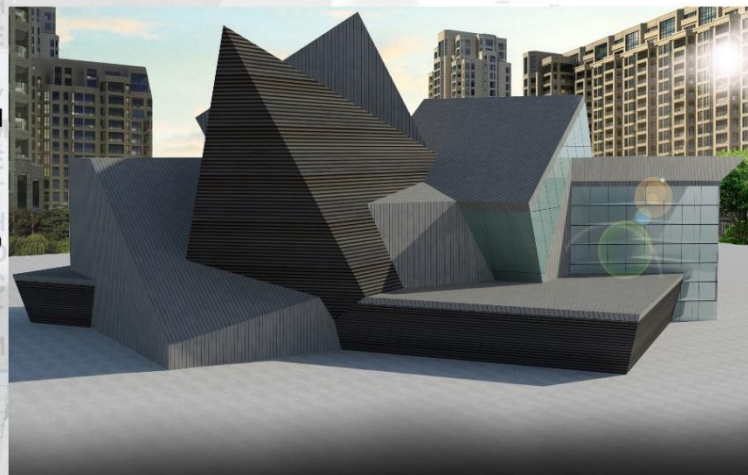
Primena nabora iz delova piramida i prizmi u arhitekturi

ПИРАМИДА
ΠΙΡΑΜΙΔΑ

ПРИЗМА
ΠΡΙΣΜΑ



МУЗЕЈ
САВРЕМЕНЕ
УМЕТНОСТИ



ГРАЂЕВИНСКО - АРХИТЕКТОНСКИ, ФАКУЛТЕТ У НИШУ
ГЕОМЕТРИЈСКЕ ПОВРШИ У АРХИТЕКТУРИ
Александар Савић МРА 283/13
2013/2014.



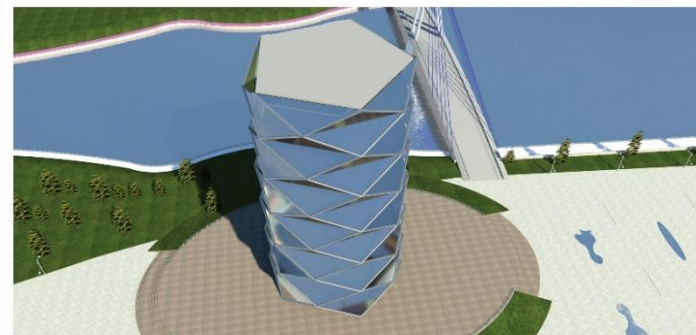
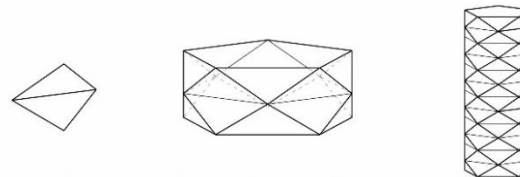
Професор: Соња Красић

Асистент: Владан Николић

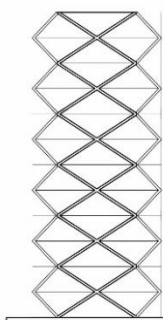
Aleksandar Savić, grafički rad, student, generacija 2013/14

Primena nabora iz delova piramida i prizmi u arhitekturi

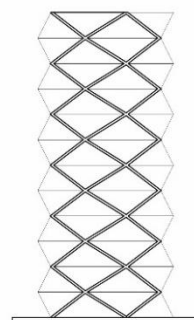
ПИРАМИДЕ И ПРИЗМЕ



ОСНОВА



изглед 1



изглед 2

0m 50m 100m 150m 200m

02



грађевинско-архитектонски факултет у нишу
геометријске површи у архитектури

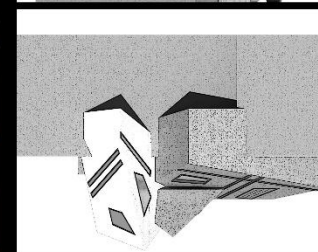
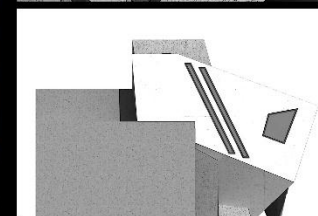
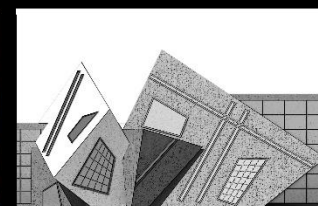
Стефан Пешић МРА265/13

Primena nabora iz delova piramida i prizmi u arhitekturi



Nikolaos Savidis, grafički rad, student, generacija 2013/14

Primena nabora iz delova piramida i prizmi u arhitekturi



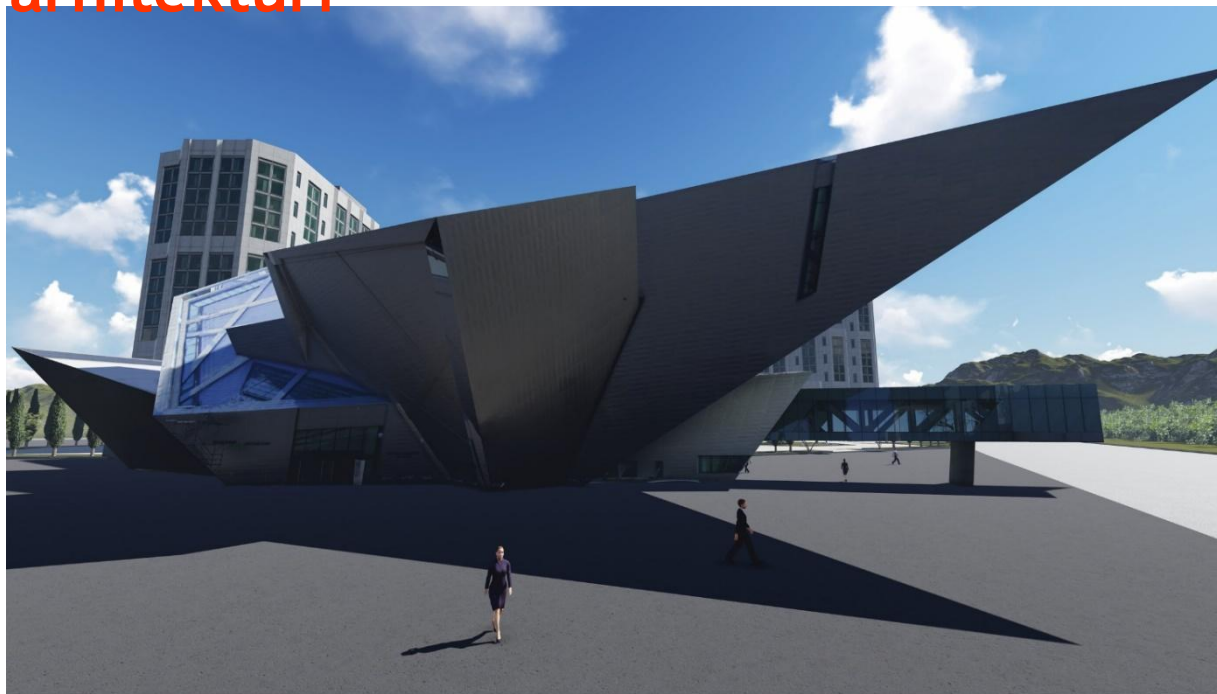
Katarina Medar,
grafički rad, student,
generacija 2014/15

Primena nabora iz delova piramida i prizmi u arhitekturi



Milica Veljković, grafički rad, student, generacija 2014/15

Primena nabora iz delova piramida i prizmi u arhitekturi



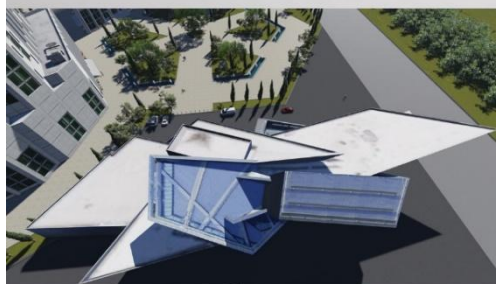
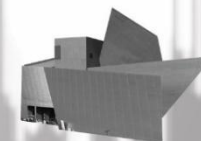
ОСНОВА



ПОГЛЕД СА СТРАНЕ



ФРОНТАЛНИ ПОГЛЕД



ПРИЗМА-02

Stefan Stanković, grafički rad, student, generacija 2014/15



Literatura:

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<http://www.google.rs/>

Konstruktivni sistemi, Miodrag Nestorović, AF, Beograd ,2000.g

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Crteži:

Petar Pejić, student, gen. 2010/11