



NSF/NASA Joint Program Office for Earth and Planetary Science

Office of Earth and Planetary Science
412 Rm. 100
National Science Foundation
Washington, DC 20540

Dear _____:

I am pleased to inform you that your application for the _____ program has been reviewed and your proposal has been selected for funding. The award amount is \$_____. The award is for a period of _____ months, starting on _____ and ending on _____.

The award is made under the terms and conditions of the NSF/NASA Joint Program Office for Earth and Planetary Science. A copy of the award document and the terms and conditions are attached to this letter. Please review the award document carefully and return a signed copy to the Office of Earth and Planetary Science by _____.

If you have any questions regarding the award, please contact the Office of Earth and Planetary Science at _____.

Sincerely,

Director, Office of Earth and Planetary Science

1. naloga

Sredi novembra je radiant nekega meteorskega roja najvišje na nebu tik pred zoro. Radiant katerega meteorskega roja je to – Leonidov ali Eta-Akvaridov? Odgovor utemelji.

Leonidov, saj je ta viden novembra, Eta-Akvaridov pa tisti čas ni viden in je viden drugič del leta.



2. naloga

Vladar majhnega, a ponosnega kraljestva, ki mu ureditev sodobnega koledarja ni bila všeč, je s 1. januarjem 2019 razglasil svoj koledar, v katerem leto traja natanko 360 dni. Katerega leta po našem koledarju se bo naslednjič naš 1. januar ujel s 1. januarjem po koledarju tega kraljestva?

~~2019 + 123~~

~~2019 + 123~~

$$2019 + x = y$$

$$\sigma = 2557$$

$$x = N$$

~~$$x = (\sigma - 5) : (6 + 3 \cdot 5) + 2$$~~

$$x = (\sigma - 5) : (6 + 3 \cdot 5) + 2$$

$$x = 2552 : 21 + 2 = 121 + 2 = 123$$

$$2019 + 123 = 2142$$

$$y = \underline{\underline{2142}}$$

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. Key Findings

3.

4.

5.

6.

7.

8.

3. naloga

Dva astronoma, eden iz Sankt Peterburga, drugi pa iz nekega drugega observatorija, opazujeta zvezdo Vega. Višina zgornje kulminacije Vege (največja višina zvezde nad obzorjem) se med opazovališčema razlikuje za 3 stopinje, pri čemer astronom na observatoriju vidi zgornjo kulminacijo Vege južno od zenita. Znano je, da je Vega za opazovalca na observatoriju v zgornji kulminaciji 1 uro in 58 minut prej kot v Sankt Peterburgu. Izračunaj zemljepisne koordinate observatorija in oceni razdaljo med observatorijem in Sankt Peterburgom.

$$1 \text{ h} = 15^\circ$$

$$\text{Sankt Peterburg} = 60^\circ \text{ S}$$

$$2 \text{ h} = 30^\circ$$

$$\text{Observatorij} = 60^\circ - 3^\circ \text{ S} = 57^\circ \text{ S}$$

$$1 \text{ h } 58 \text{ min} \approx 2 \text{ h} = 30^\circ \text{ vzhodnejše kot}$$

$$\text{Sankt Peterburg}$$

$$r_z = 1 \text{ radij zemlje}$$

$$\sigma_z = 2 \cdot \pi \cdot 1 \cdot r_z = 6,28 \pi_z$$

$$360^\circ = 6,28 \pi_z$$

$$32^\circ = 0,5709 \pi_z$$

$$628 : 1100 \approx 0,5709$$

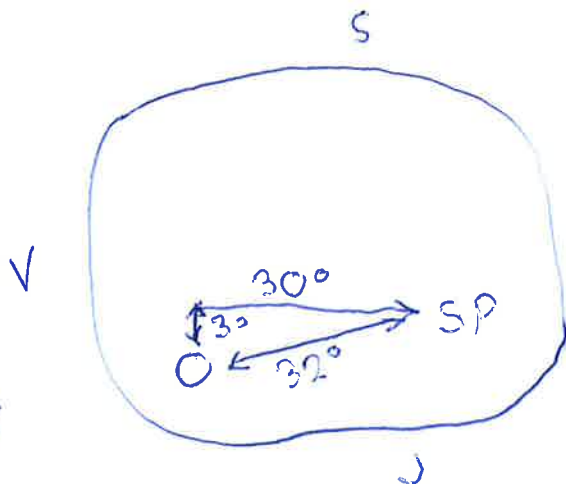
$$360^\circ : 32^\circ \approx 11$$

$$\frac{1 \cdot 3,14}{6,28}$$

Z = Zemlja

SP = Sankt Peterburg

O = Observatorij

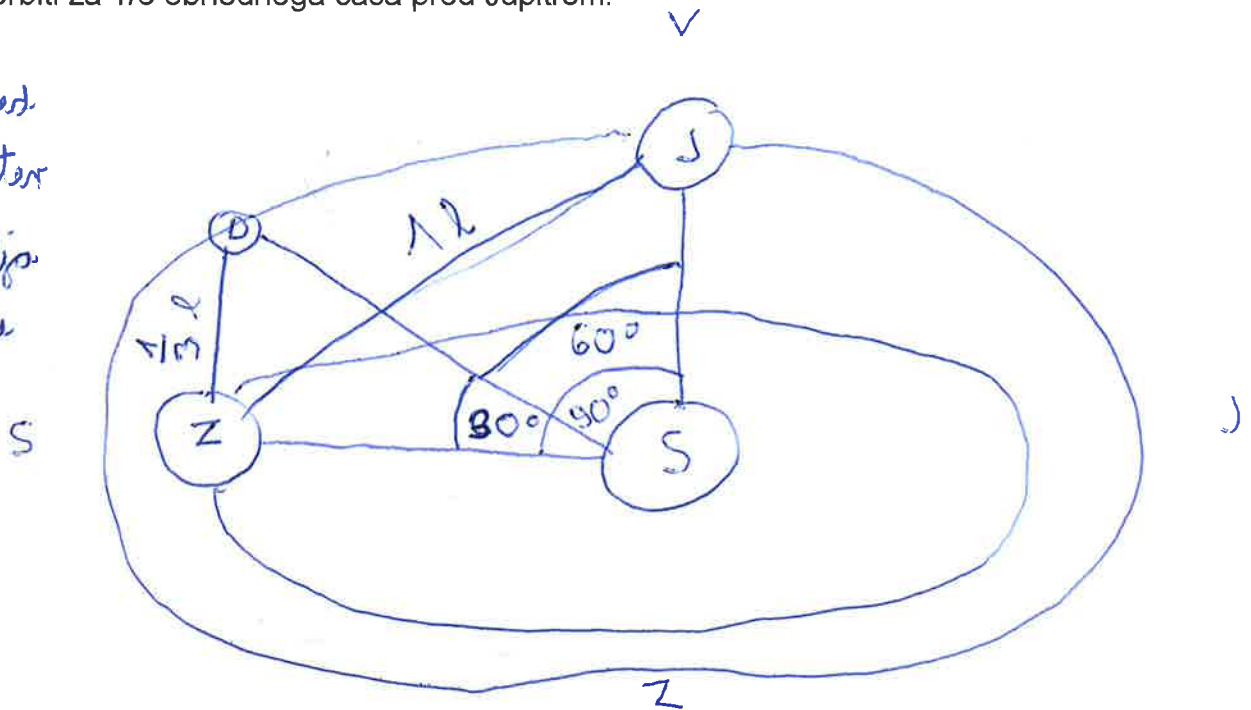




4. naloga

V času meritev oddaljenosti asteroida Diomed z radijskim signalom, se Jupiter nahaja v vzhodni kvadraturi. Koliko časa traja ena meritev oddaljenosti asteroida z radijskim signalom? Znano je, da se Diomed okoli Sonca giblje po enaki orbiti kot Jupiter in da je na orbiti za $1/6$ obhodnega časa pred Jupiterom.

- D = Diomed
- J = Jupiter
- Z = Zemlja
- S = Sonce



$$360^\circ : 6 = 60^\circ$$

$$c = 300\,000 \text{ km/s}$$

$$30^\circ = \frac{1}{3} \text{ od } 90^\circ$$

Ena meritev traja tretjino manj časa kot meritev oddaljenosti Jupitera.

c = svetlobna hitrost

l = oddaljenost Zemlje od Jupitera



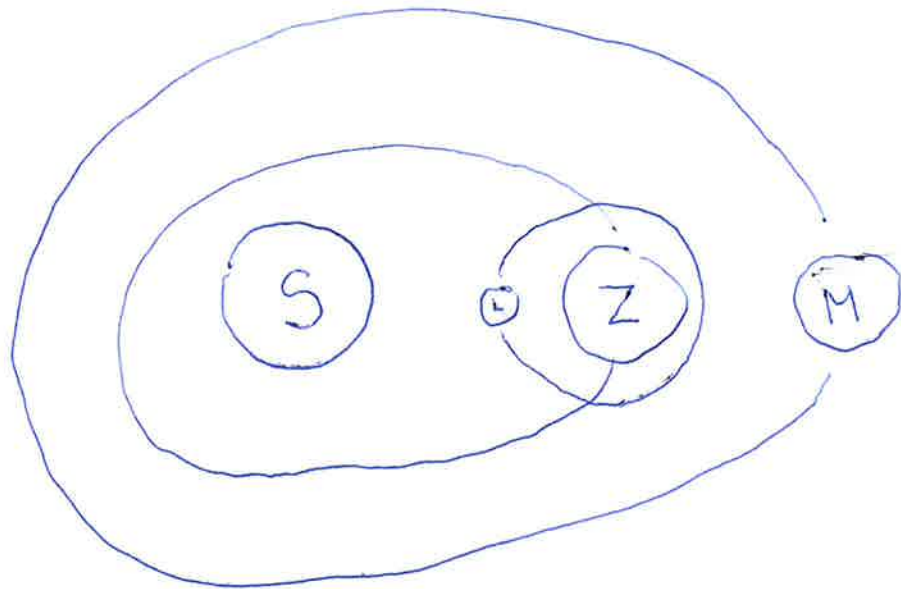
5. naloga

27. julija 2018 se je zgodil redek astronomski pojav: velika opozicija Marsa je bila sočasno s popolnim (centralnim) Luninim mrkom. V sredini popolne faze Luninega mrka je bil Mars na nebu za 2 magnitudi svetlejši od Lune. Oceni, za kolikokrat je bila takrat ena kvadratna kotna sekunda vidne ploskvice Marsa svetlejša od ene kvadratne sekunde Lunine ploskvice. Vemo, da razlika ene magnitude pomeni, da je eno nebesno telo približno 2,5-krat svetlejše od drugega. Polmer Marsa je polovico polmera Zemlje. Polmer Marsove orbite je 1,5 astronomske enote.

M = Mars

S = Sonce

L = Luna



$$1''^2_M = 2,5 \cdot 2 \text{ svetlejša od } 1''^2_L$$

$$1''^2_M \text{ je bila } 5\text{-krat svetlejša od } 1''^2_L$$

$$2 \text{ magnitudi} \cdot 2,5 = 5$$

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the success of any business and for the protection of the interests of all parties involved. The document outlines the various methods and systems that can be used to ensure the accuracy and reliability of the records.

In addition, the document provides a detailed overview of the different types of records that should be maintained, including financial statements, contracts, and correspondence. It also discusses the importance of regularly reviewing and updating the records to ensure that they remain current and relevant. The document concludes by emphasizing the need for transparency and accountability in all business dealings.

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