

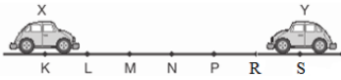


Fizika



- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

1. Rasmda teng bo'lakli yo'lining bir qismi ko'rsatilgan. Harakati K va S nuqtalar orasida o'rganilayotgan X hamda Y mashinalar bir vaqtda tekis harakat qilib, M nuqtada uchrashadi. Bu ma'lumotlardan foydalanib, Y mashina tezligi X mashina tezligidan necha marta katta ekanligini toping.



- 3 marta  
 1,5 marta  
 4 marta  
 2 marta

Oldingi savol Keyingi savol

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

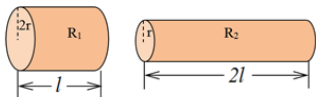
2. Rasmda ko'rsatilgan tarozida Arximed chelagiga uning tumshug'i qadar suv solingan. Agar bu suvga barmog'imizning bir uchini botirsak, tarozining ko'rsatishi o'zgaradimi?



- Ha  
 Yo'q

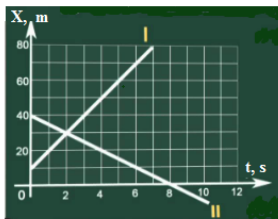
- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

3. Rasmda ko'rsatilgan sterjenlarning qarshiliklari nisbatini ( $R_2/R_1$ ) aniqlang. Sterjenlar bir xil materialdan yasalgan.



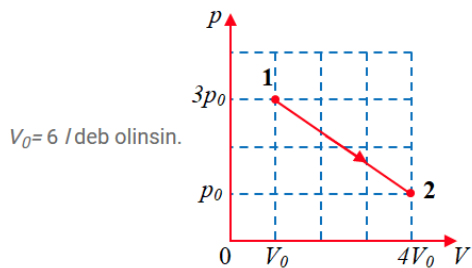
- A) 8  
 D) 2  
 B) 4  
 C)  $\frac{1}{4}$

4. Rasmda koordinata grafigi tasvirlangan. Rasmdagi ma'lumotlar asosida vaqtning qanday onida jismlar orasidagi masofa 270 m bo'lishini aniqlang.



- 32
- 30
- 20
- 40

5. O'zgarmas massali bir atomli ideal gaz 1-holatdan 2-holatga o'tdi (rasmg q.). Bunda gazning ichki energiyasi qanchaga o'zgaradi (J)?  $p_0=150$  kPa va  $V_0=6$  / deb olinsin.



- 1450 J ga ortgan
- 1350 J ga ortgan
- 1450 J ga kamaygan
- 1300 J ga kamaygan

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

6. Foton energiyasi  $4,4 \cdot 10^{-19}$  J bo'lgan yorug'likning muhitdagi to'liq uzunligi  $3 \cdot 10^{-7}$  m bo'lsa, shu muhitning nur sindirish ko'rsatkichini aniqlang. Plank doimiysi  $6,6 \cdot 10^{-34}$  J·s.

- 1
- 5
- 1,5
- 2,5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

7. Tok manbaiga ulangan yassi kondensator qoplamalari orasidagi masofa orttirilsa, kondensatordagi kuchlanish qanday o'zgaradi?

- avval ortib, keyin kamayadi
- o'zgarmaydi
- kamayadi
- ortadi

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

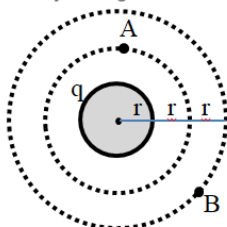
8. Har birining qarshiligi 20 kΩ dan bo'lgan rezistorlardan 6 kΩ qarshilik olish uchun kamida nechtasini olish kerak bo'ladi?



- 12
- 15
- 30
- 24

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

9. Zaryadlangan sfera atrofidagi konsentrik aylanalarda yotuvchi A va B nuqtalardagi maydon kuchlanganliklari nisbati ( $E_A/E_B$ ) ni aniqlang?



- $\frac{2}{3}$
- $\frac{9}{4}$
- $\frac{5}{3}$
- $\frac{1}{3}$

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

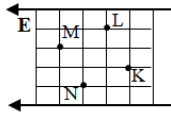
10. Tokli o'tkazgich magnit maydonga kiritilganda unga magnit maydon ta'sir qilmasligi mumkinmi?

- yo'q mumkin emas, chunki magnit maydon tokli o'tkazgichga doim ta'sir qiladi.
- mumkin, agar o'tkazgich induksiya chiziqlariga nisbatan perpendikulyar joylashsa
- mumkin, agar o'tkazgichdagi tok o'zgaruvchan bo'lsa
- mumkin, agar o'tkazgich induksiya chiziqlariga nisbatan parallel joylashsa

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

11. Chizmadagi L va M nuqtalar orasidagi maydon potentsiallari farqi 20 V ga teng bo'lsa, M va K nuqtalar orasidagi potentsiallar farqi necha V ga teng?

Elektr maydonni bir jinsli deb oling.



- 10
- 5
- 40
- 30

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

12. Massasi 5 kg bo'lgan tosh 10 m balandlikdan erkin tushadi va yerga urilish vaqtida 12 m/s tezlikka erishadi? Havoning o'rtacha qarshilik kuchini aniqlang (N).  $g=10 \text{ m/s}^2$ .

- 14
- 24
- 20
- 28

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

13. Tebranish konturidagi kondensator zaryadlanib, g'altakka ulanganidan qanday eng kichik vaqt o'tib, kondensatordagi va g'altakdagi energiyalar tenglashadi? Tebranish konturining xususiy tebranish davri T ga teng.

- $\frac{T}{6}$
- $\frac{T}{8}$
- $\frac{T}{4}$
- $\frac{T}{2}$

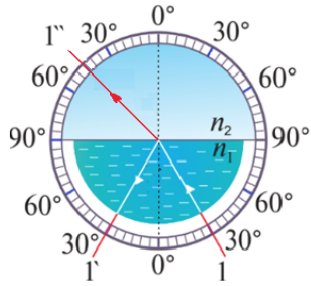
14. Real gazning ideal gazdan farqi qanday?

- real gaz molekulari bir-biri bilan to'qnashib turadi
- real gaz ideal gazdan hidi mavjudligi bilan farq qiladi
- real gaz molekulari orasida o'zaro ta'sir kuchi mavjud
- real gaz molekularining o'lchami kichik bo'ladi

15. Idishdagi gazning bosimi 690 kPa, harorati 227 °C. Gaz molekularining konsentratsiyasini ( $m^3$ ) toping.  $k = 1,38 \cdot 10^{-23}$  J/K.

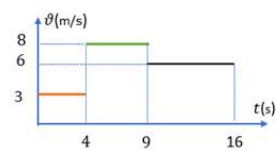
- $1 \cdot 10^{25}$
- $5 \cdot 10^{15}$
- $1,38 \cdot 10^{26}$
- $2,2 \cdot 10^{23}$

16. Rasmdan foydalanib, suyuqlikning sindirish ko'rsatkichini aniqlang. 2-muhit havo.



- $\sqrt{2}$
- 1,5
- 2
- $\sqrt{3}$

17. Grafikdan foydalanib, jismning butun yo'l davomidagi o'rtacha tezligini (m/s) toping.

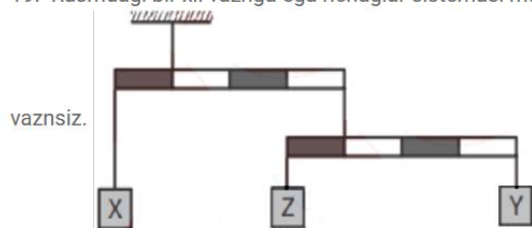


- $\frac{78}{16}$
- $\frac{47}{8}$
- $\frac{96}{16}$
- $\frac{42}{8}$

18. Panjara doimiysi  $1,1 \mu\text{m}$  bo'lgan difraksiyon panjarada kuzatish mumkin bo'lgan maksimumlar soni 5 ta bo'lsa, shu difraksiyon panjaraga tushayotgan yorug'lik to'lqin uzunligini toping ( $\mu\text{m}$ ).

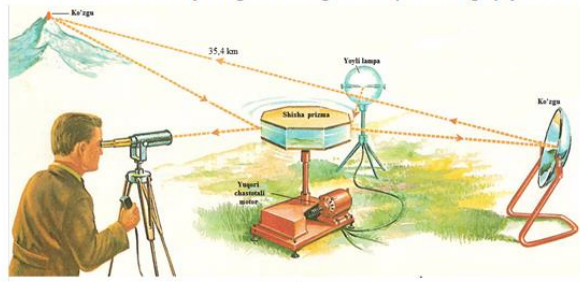
- 0,22
- 0,55
- 0,8
- 0,6

19. Rasmdagi bir xil vaznga ega richaglar sistemasi muvozanatda bo'lishi uchun Z yukning massasi necha kg bo'lishi kerak?  $m_X = 31 \text{ kg}$ ,  $m_Y = 2 \text{ kg}$ . Iplar vaznsiz.



- 7
- 4
- 9
- 6

20. Ushbu rasmda yorug'lik tezligini aniqlashning qaysi metodi ko'rsatilgan?

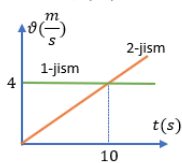


- Fizo tajribasi
- Maykelson tajribasi
- Shtern tajribasi
- Ryomer tajribasi

21.  ${}^{232}_{90}\text{Th}$  toriy izotopida bitta  $\alpha$  va ikkita  $\beta$ -yemirilish ro'yi bersa, qanday yadro hosil bo'ladi?

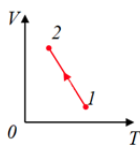
- ${}^{214}_{82}\text{Pb}$
- ${}^{224}_{86}\text{Rn}$
- ${}^{228}_{90}\text{Th}$
- ${}^{236}_{92}\text{U}$

22. Rasmda bir nuqtadan harakatlana boshlagan jismlarning tezlik grafigi keltirilgan. Rasmdan foydalanib, ular uchrashguncha qancha yo'l yurganini aniqlang (m).



- 100
- 40
- 80
- 20

23. Gaz 1 holatdan 2 holatga o'tganida uning bosimi qanday o'zgaradi?



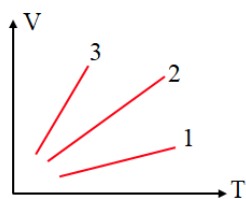
- ortadi
- kamayadi
- o'zgarmaydi
- avval ortib, keyin kamaydi

24. Richagning uzun yelkasi 1,2 m ga, qisqa yelkasi esa 20 cm ga teng. Ushbu richag yordamida polvon 540 kg yukni ko'tara oladi. Polvonning massasi qancha (kg)? Richag vazni e'tiborga olinmasin.



- 100
- 90
- 120
- 80

25. Kislород ( $O_2$ ), geliy (He) va karbonat anhidrid ( $CO_2$ ) gazlari izobar isitilgandagi hajmlarining temperaturaga bog'lanish grafiklari rasmda tasvirlangan. Gazlarning massalari va bosimlari bir xil bo'lsa, qaysi grafik qaysi gazga mos kelishini aniqlang?



- 1-He, 2- $CO_2$ , 3- $O_2$
- 1-He, 2- $O_2$ , 3- $CO_2$
- 1- $O_2$ , 2-He, 3- $CO_2$
- 1- $CO_2$ , 2- $O_2$ , 3-He

◀ Oldingi savol      Keyingi savol ▶

26. Metall sterjenning absolyut va nisbiy uzayishi mos holda 4 mm va 0,2 % bo'lsa, deformatsiyalanmagan sterjenning uzunligini aniqlang (m).

- 3
- 1
- 2
- 4

27. Ko'l tubidagi havo pufakchasi suv sirtiga ko'tarilganiga qadar hajmi 4 marta ortadi. Ko'l tubi va ko'l sirtida harorat bir xil deb hisoblab, pufakcha necha m chuqurlikdan ko'tarilganini aniqlang. Atmosfera bosimi 100 kPa.

- 30
- 50
- 20
- 40

28. O'zgaruvchan tok zanjiriga ulangan kondensatordagi zaryadning o'zgarish qonuni  $q = 2 \cdot 10^{-6} \cos 10\pi t$  ko'rinishida bo'lsa, tok kuchining eng katta qiymati necha amperga teng bo'ladi?

- $2\pi \cdot 10^{-5}$
- $2\pi \cdot 10^{-7}$
- $2\pi \cdot 10^{-6}$
- $2 \cdot 10^{-7}$

29. Foydali ish koeffitsiyenti  $\eta$  bo'lgan issiqlik mashinasi isitkichdan  $Q_1$  issiqlik miqdori olganda, qanday ish bajaradi?

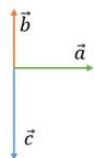
- $(1 + \eta)Q_1$
- $(1 - \eta)Q_1$
- $Q_1/\eta$
- $\eta Q_1$



30. Tezligi  $v$  bo'lgan elektron induksiyasi  $B$  bo'lgan magnit maydonga kuch chiziqlariga tik ravishda uchib kirdi. Shu elektron harakat trayektoriyasining egrilik radiusi qaysi ifoda asosida hisoblanishi mumkin?

- $R = \frac{vB}{em}$
- $R = \frac{ev}{mB}$
- $R = \frac{mv}{eB}$
- $R = \frac{eB}{mv}$

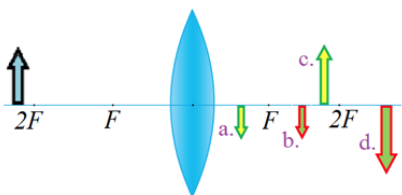
31. Agar  $|\vec{a}| = 8$ ,  $|\vec{b}| = 6$  va  $|\vec{c}| = 10$  bo'lsa,  $|\vec{a} + \vec{b} + \vec{c}|$  ni toping.



- $\sqrt{80}$
- $\sqrt{160}$
- 12
- 24

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
 31 32 33 34 35 36 37 38 39 40

32. Rasmda linzaning chap tarafida buyum tasvirlangan. Shu buyumning linza ortidagi tasviri rasmda ko'rsatilgan holatlardan qaysi biriga mos keladi?



- c
- d
- b
- a

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
 31 32 33 34 35 36 37 38 39 40

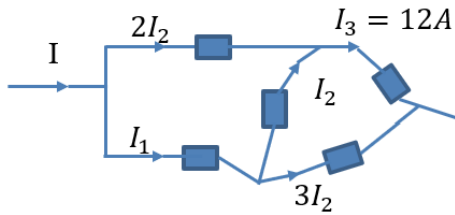
33. Rasmda musbat zaryadlangan elektrometr ko'rsatilgan. Agar uning kallagiga miqdori elektrometr zaryadidan kamroq bo'lgan manfiy zaryadlangan jism tekkizilsa, elektrometr ko'rsatishi qanday o'zgaradi?



- teskari tomonga og'ib ketadi
- o'zgarmaydi
- kamayadi
- ortadi

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

34. Rasmdagi  $I_1$  tok kuchini toping.



- 16 A  
 2 A  
 3 A  
 4 A

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

35. Silindrik idishdagi erkin siljiydigan porshen ostida ikki atomli gaz bor. Gaz bosimi  $10^5$  Pa ga teng. Unga qancha issiqlik miqdori (J) berilsa, hajmi 2 / ga oshadi?

- 600  
 500  
 700  
 300

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

36. Vodorod atomida elektronning beshinchi orbitadan ikkinchi orbitaga o'tganda chiqargan yorug'lik chastotasini toping (Hz). Ridberg doimiysi  $R=3,29 \cdot 10^{15}$  Hz.

- $7,9 \cdot 10^{14}$   
  $6,9 \cdot 10^{14}$   
  $5 \cdot 10^{14}$   
  $9 \cdot 10^{14}$

- 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40

37. Havoning qarshiligi inobatga olinmaganda, balandligi 20 m bo'lgan tepalikdan gorizontga  $37^\circ$  burchak ostida 15 m/s boshlang'ich tezlik bilan otilgan jism yerga qanday tezlik bilan uriladi?  $\sin 37^\circ = 0,6$ ;  $\cos 37^\circ = 0,8$ ;  $g=10$  m/s<sup>2</sup>.

- 32 m/s  
 40 m/s  
 30 m/s  
 25 m/s



38. Linzaning optik zichligi qizil nur uchun 1,5 ga, binafsha nur uchun 1,52 ga teng. Linzaning ikkala tomoni ham bir xil egrilik radiusiga ega bo'lib, 1 m ga teng. Qizil va binafsha nurlar uchun linzaning fokus masofalari orasidagi farqni aniqlang (cm). Muhitning optik zichligi 1 ga teng deb olinsin.

- $\frac{13}{100}$
- $\frac{100}{13}$
- $\frac{13}{50}$
- $\frac{50}{13}$



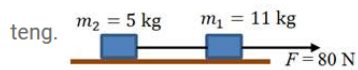
39. Rasmda berilgan (A) nuqtada natijaviy maydon kuchlanganligining moduli va yo'nalishi qanday?



- $\frac{q}{2d^2}$ , o'ngga
- $k \frac{q}{d^2}$ , chapga
- $k \frac{q}{d^2}$ , o'ngga
- $k \frac{q}{2d^2}$ , chapga



40. Rasmdagi jismlar sistemasi qanday tezlanish ( $\frac{m}{s^2}$ ) bilan harakatlanadi? Brusoklar va sirt orasidagi ishqalanish koeffitsiyentlari bir xil bo'lib, u 0,2 ga teng.



- 4
- 1
- 2
- 3

Telegram: <https://t.me/ustoz>