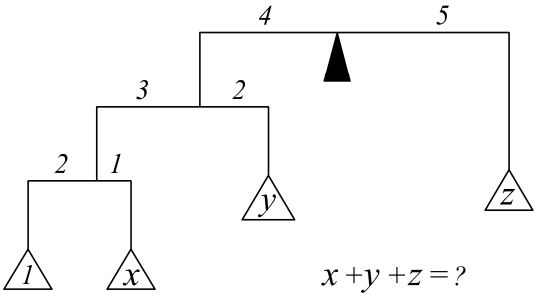
Variant N-1

1. Richagning uchlariga 2 N va 18 N kuchlar tasir qiladi. Richagning uzunligi 1 m. Agar richag muvozanatda bo‘lsa, tayanch nuqtasi kuchlardan qanday masofada (m) bo‘ladi?

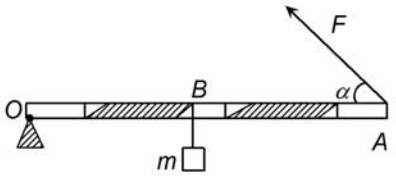
A) 0,8; 0,2 *B*) 0,9; 0,7 *C*) 0,4; 0,6
D) 0,9; 0,1 *E*) TJY.

2. Rasmdan $x+y+z$ ni toping.



A) 12,5 *B) 3,4* *C) 8* *D) 13,5* *E) 16*

3. OA vaznsiz sterjen tayanchga o‘rnatilgan O o‘qqa nisbatan vertikal tekislikda erkin aylana oladi. Sterjenning A uchiga 30° burchak ostida 200 N kuch ta`sir etmoqda. Sterjenni muvozanatda saqlash uchun uning o‘rtasidagi B nuqtaga qanday m yuk (kg) qo‘yish kerak?



A) 25 *B*) 30 *C*) 20 *D*) 43 *E*) 10

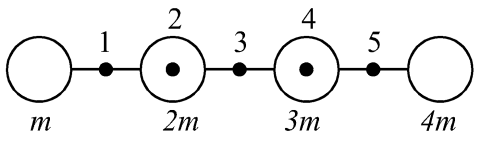
4. Massasi 300 kg va uzunligi 2 m bo‘lgan bir jinsli to‘sin uchlaridan bir xil uzoqlikdagi tayanchlarda yotibdi. Tayanchlar orasidagi masofa 1,5 m. To‘sinning bir uchini biroz ko‘tarish uchun kamida qanday yuqoriga yo‘nalgan kuch qo‘yish kerak (*N*)?

A) 1286 *B*) 909 *C*) 1714 *D*) 1364 *E*) 1065

5. Trubaning massasi 1200 kg. Uning bir uchini ko‘tarish uchun qanday kuch *(kN)* zarur bo‘ladi?

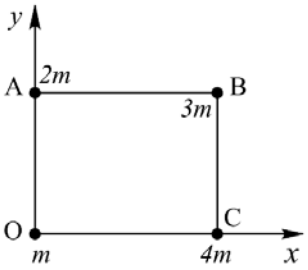
A) 9 *B*) 6 *C*) 12 *D*) 24 *E*) 10

6. Qaysi nuqtaga tayanch qo‘yilsa, jismlar sistemasi muvozanatda bo‘ladi?



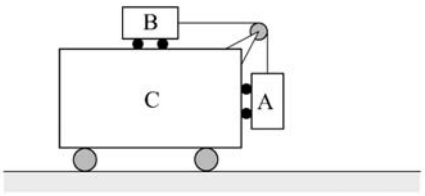
A) 5 *B*) 4 *C*) 2 *D*) 3 *E*) 1

7. Bir–biriga simlar bilan biriktirilgan sharlarning massa markazi koordinatasi aniqlansin. Kvadrat tomonlari 1 birlikdan .



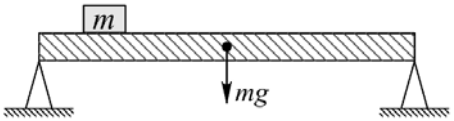
A) 0,7 ; 0,5 *B*) 0,9 ; 0,3 *C*) 0,6 ; 0,4
D) 0,3 ; 0,8 *E*) 0,8 ; 0,4

8. $m_A = 300\,g$, $m_B = 200\,g$ va $m_c = 1{,}5\,kg$ bo‘lsa, A aravacha C aravachaga nisbatan tinch turishi uchun C aravachaga qanday kuch (N) qo‘yish lozim? Ishqalanishni inobatga olmang.



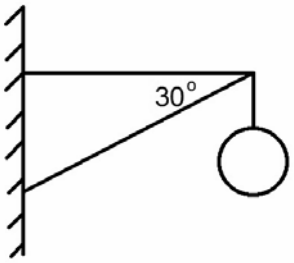
A) 27 *B*) 35 *C*) 15 *D*) 30 *E*) 24

9. Massasi 100 kg bo‘lgan bir jinsli balka A va B tayanchlarda yotibdi. A tayanchdan $l/4$ masofada massasi 80 kg bo‘lgan yuk bor. Balkaning tayanchlarga beradigan bosim kuchlarini *(N)* toping. $g = 10\,m/s^2$.



A) 1300; 500 *B*) 1200; 600 *C*) 1100; 700
D) 1050; 750 *E*) 1400; 400

10. Massasi 2kg bo‘lgan shar vaznsiz kronshteynda rasmda ko‘rsatilganidek osilib turibdi. Kronshteyn gorizontal qismining taranglik kuchini (N) aniqlang.



A) 2 *B*) 20 *C*) 3,46 *D*) 34,6 *E*) 4

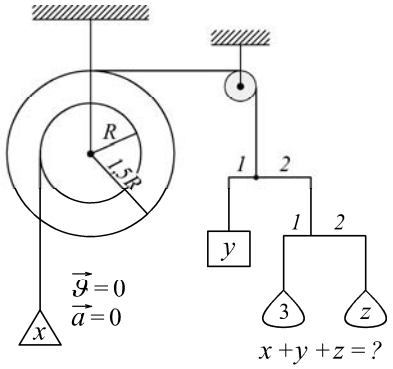
Tuzuvchi: M. Usmanov
Telegramdagi kanalimiz: FizikaUsamnov

Variant N-2

1. Richagning kichik yelkasiga 300 N kuch, katta yelkasiga 20 N kuch tasir qiladi. Kichik yelkaning uzunligi 5,0 sm. Katta yelkaning uzunligini aniqlang (sm).

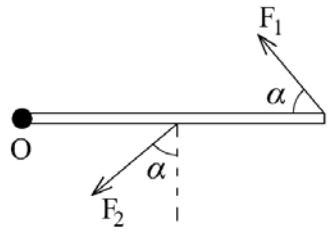
A) 75 *B*) 40 *C*) 150 *D*) 35 *E*) 20

2. Rasmdan $x+y+z$ ni toping



A) 20,25 *B)30,75* *C)10,5* *D) 13,5* *E)26,75*

3. Bir jinsli balka O nuqtaning atrofida aylanishi mumkin. F_2 kuch balkaning o‘rtasiga qo‘yilganligi va balkaning muvozanatda ekanligi ma`lum bo‘lsa, kuchlar orasidagi to‘g‘ri munosabatni toping.



A) $F_1=F_2$ *B*) $F_1=\sin a\cdot F_2$ *C*) $F_2=2tga\cdot F_1$

D) $F_1=2ctga\cdot F_2$ *E*) $F_1=\cos a\cdot F_2$

4. Uzunligi 5,4 m va massasi 50 kg bo‘lgan bir jinsli xoda ikki tayanchda yotibdi. Xodaning chap uchidan chap tayanchgacha bo‘lgan masofa 0,1 m xodaning o‘ng uchidan o‘ng tayanchgacha bo‘lgan masofa esa 0,3 m. Xodaning o‘ng tayanchga bosim kuchi qanday (N)?

A) 180 *B*) 240 *C*) 260 *D*) 320 *E*) 200

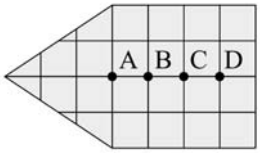
5. Uzunligi 6 metr bo‘lgan 100 kg massali xodaning bir uchini 2 metr balandlikga ko‘tarish uchun qancha (kJ) ish bajarish kerak?

A) 1 *B*) 4 *C*) 2 *D*) 1,2 *E*) 0,5

6. Uzunligi L bo‘lgan silindrsimon sterjenning yarmi ρ, yarmi esa $\frac{1}{3}\rho$ zichlikga ega bo‘lgan metaldan tayyorlangan bo‘lsa, uning og‘irlik markazi sterjen markazidan qancha masofada joylashgan?

A) $\frac{L}{16}$ *B*) $\frac{L}{20}$ *C*) $\frac{L}{8}$ *D*) $\frac{L}{4}$ *E*) $\frac{L}{5}$

7. Rasmda massasi 12,5 kg bo‘lgan bir jinsli metal plastinka tasvirlangan. Uning og‘irlik markazi qayerda joylashgan? (har bir katakning tomoni 1 birlik uzunlikga ega).



A) B nuqtada *B*) C nuqtada

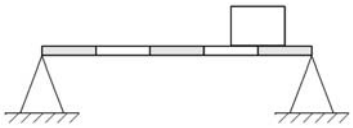
C) B va C orasida *D*) C va D orasida

E) aniqlab bo‘lmaydi

8. Devorga 8 kg massali narvon tirab qo‘yilgan. Narvonning og‘irlik markazi uning yuqori uchidan narvon uzunligining 2/5 qismiga teng masofada joylashgan. Narvonning yuqori uchi devorga bosim ko‘rsatmasligi uchun uning o‘rtasiga gorizontal yo‘nalishda qanday kuch *(N)* qo‘yilishi kerak? Narvon va devor orasidagi burchak 30° ga teng.

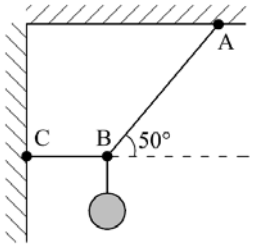
A) 28 *B*) 96 *C*) 32 *D*) $32\sqrt{3}$ *E*) $96\sqrt{3}$

9. 40 kg massali balka ustiga 10 kg massali yuk qo‘yilgan. Chap tayanchda qanday reaksiya kuchi (N) hosil bo‘ladi?



A) 200 *B*) 240 *C*) 280 *D*) 300 *E*) 220

10. Agar AB ipning uzunligi 50 *sm* ga teng bo‘lsa, 4 kg massali elektr chiroqning A nuqtaga nisbatan kuch momenti $(N\cdot m)$ qanday bo‘ladi?
$(\cos 50^\circ=0{,}64;\sin 50^\circ=0{,}76)$.



A) 10,8 *B*) 16,2 *C*) 20,8 *D*) 12,8 *E*) 15,2

Tuzuvchi: M. Usmanov
Telegramdagi kanalimiz: FizikaUsamnov