

52. Quvlama harakat



Yondosh mavzu:
yengil atletika.

Bo'luvchilar, karralilar,
yaxlit sonlar.

1. Aziza uzunlikka sakrash musobaqasidan keyin do'stlari orasidan eng yaxshi natijaga erishganlarni aniqlovchi diagramma tuzdi.

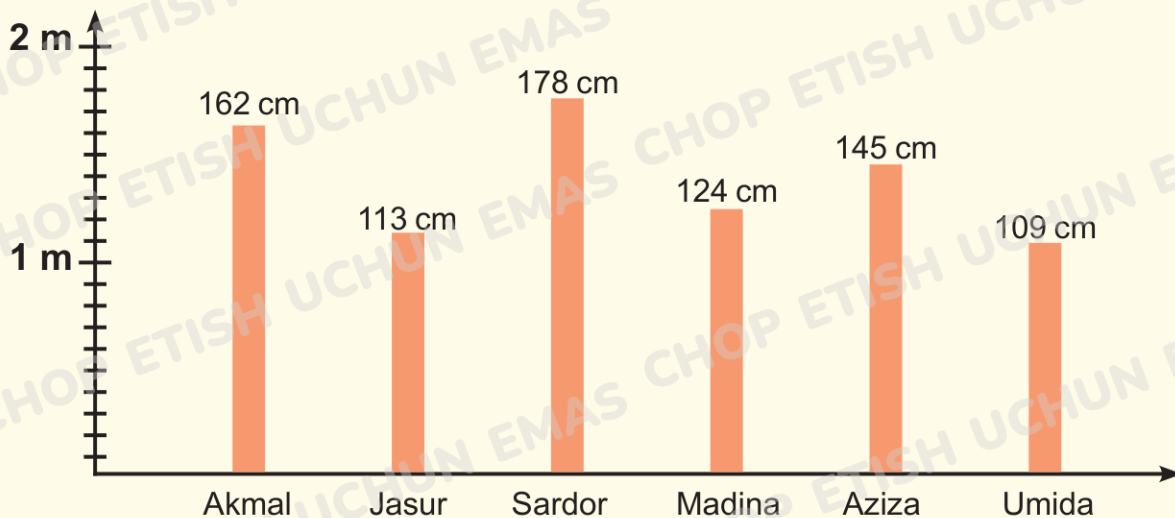
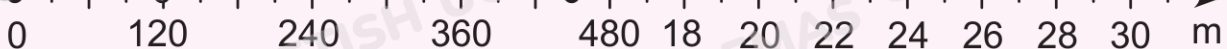


Diagramma bo'yicha savollarga javob bering.

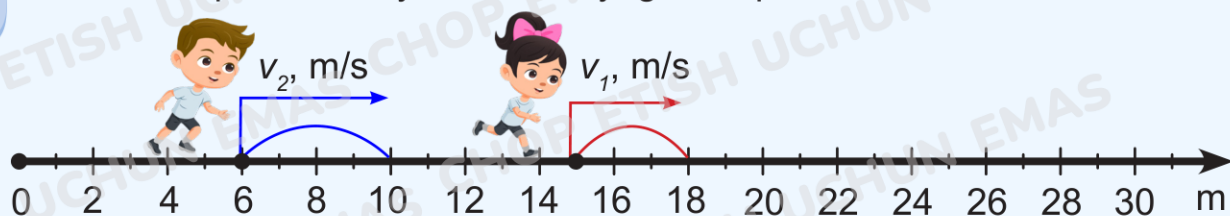
- Kim uzoqqa sakradi: Jasurmi yoki Akmalmi? Madinami yoki Umidami?
- O'g'il bolalar orasida eng uzoqqa sakrovchi kim? Qizlar orasida-chi?
- Musobaqada kim g'olib bo'ldi?
- Sinfdagi o'g'il bolalar o'rtacha qanday uzunlikka sakrashgan? Sinfdagi qizlar-chi?

2. Salim joyida turib 120 cm ga sakradi. U 4 m 50 cm masofaga yetishi uchun necha marta sakrashi kerak?





3. Ikkita sportchi bir yo'nalishda yugurmoqda.

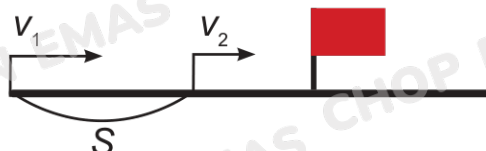


- Hozir ular bir-biridan qanday masofada bormoqda?
- Aziza 1 sekundda qancha masofaga yuguradi? U qaysi nuqtaga yetib boradi?
- Salim 1 sekundda qancha masofaga yuguradi? U qaysi nuqtaga yetib boradi?
- 1 sekunddan keyin ular orasidagi masofa qanday bo'ldi?
- 1 sekunddan keyin ular orasidagi masofa ortdimi yoki kamaydimi? Necha metr ga?
- Agar ular shunday tezlikda yugurishda davom etishsa, Salim Azizani quvib yetadimi?

Jadvalni daftaringizga chizing va uni to'ldiring.

t, s	0	1	2	3	4	5	6	7	8	9
x_1	15									
x_2	6									
S, m	9									

Bir-birining ortidan yugurib ketayotgan sportchilardan ortdagisi oldinda borayotganiga yaqinlashishi mumkin. Bu ortda borayotgan sportchining tezligi oldindagining tezligidan katta bo'lgan holda yuz beradi. Bunday harakat quvlama harakat deb ataladi. Ularning yaqinlashish tezligini quyidagi formula bilan hisoblash mumkin: $v_{\text{yaq.}} = v_1 - v_2$.



4. Yugurish yo'lakhasida Akmal, uning ortidan esa 440 m masofada Jasur yugurib ketmoqda. Akmalning tezligi 319 m/min, Jasurning tezligi esa 374 m/min. 1 minutda ular orasidagi masofa necha metr ga qisqaradi? 3 minutda-chi? 6 minutda-chi? 8 minutdan keyin ular orasidagi masofa qanday bo'ladi?

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5. Hisoblang. Natijalarni quyidagicha ifodalang:

a) sekundlarda:

$$(25 \text{ min} + 480 \text{ s} : 60) - 300 \text{ s}; \quad 15 \text{ min} + 15 \text{ min} \cdot 8 - 95 \text{ s};$$

b) minutlarda:

$$360 \text{ min} - (2 \text{ h} + 90 \text{ min}); \quad (11 \text{ h } 22 \text{ min} + 38 \text{ min}) : 3.$$



6. Shakllar o'rniga shunday raqamlarni tanlangki, natijada hisoblashlar to'g'ri bo'lsin.

$$\begin{array}{r} + \quad \diamond 5 \diamond \circ \\ 6 \diamond 2 \ 0 \\ \hline 7 \ 9 \ 7 \ 0 \end{array}$$

$$\begin{array}{r} - \quad 5 \ 1 \circ \circ \\ \square \diamond 6 \ 4 \\ \hline \square 3 \ 1 \ 3 \end{array}$$

$$\begin{array}{r} + \quad \diamond \square \ 8 \\ \ 3 \\ \hline 2 \ 3 \ 6 \ \circ \end{array}$$



7. A, B, C, D va E sportchilar yugurish musobaqasida qatnashdi. D sportchi A sportchidan keyin, B sportchi esa D sportchidan oldin va C sportchidan keyin darhol marraga yetib keldi. C sportchi birinchi bo'lmadi, lekin A sportchidan oldin keldi. Sportchilar marraga qanday tartibda yetib kelgan?



8. Hisoblang. Amallar tartibini to'g'ri qo'ying va ularni bajaring. Uzoq va qisqa masofaga yuguruvchilar nomini yozing.

a) $207 \cdot 81 + (4 \ 314 - 24 \cdot 55) : 6 - (1 \ 296 : 4 - 184)$

E 17 266

N 16 767

R 17 126

T 499

I 140

P 2 994

R 324

S 1 320

b) $(312 - 18) \cdot 30 \cdot (274 - 176) : 40 + 54$

A 8 820

Y 864 360

N 1 368

S 294

E 21 609

K 23 512

R 21 663

T 98



9. Jasur Akmalni o'zidan 200 metr masofada turganini ko'rdi. Jasur 80 m/min, Akmal esa 60 m/min tezlikda harakatlanmoqda. Ularning yaqinlashish tezligi qanday? 1 minutdan keyin ular orasidagi masofa qanday bo'ladi? 2 minutdan keyin-chi? 5 minutdan keyin-chi?

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Yondosh mavzu:
velopoyga.

Bo'luvchi, oxirgi raqam,
yaxlit son.



1. Soatlar qaysi vaqtni ko'rsatyapti?



2. Qaysi yozuvlar noto'g'ri?

$$1 \text{ h} = 60 \text{ min}$$

$$2 \text{ h } 5 \text{ min} = 125 \text{ min}$$

$$1 \text{ d } 1 \text{ h} = 24 \text{ h}$$

$$1 \text{ min} = 60 \text{ s}$$

$$1 \text{ h } 45 \text{ min} = 105 \text{ min}$$

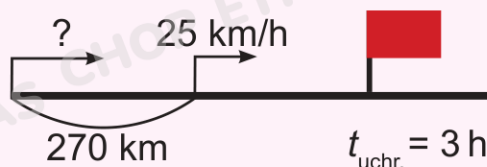
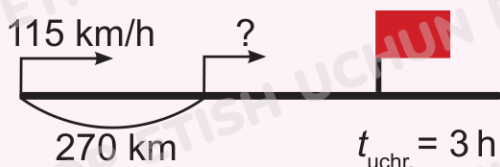
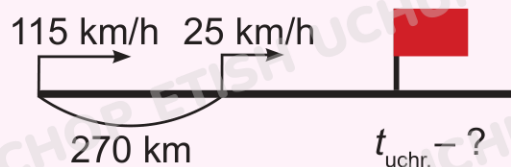
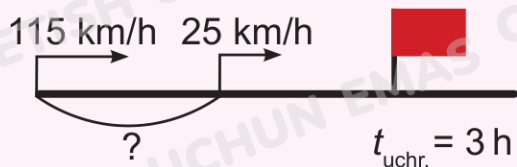
$$1 \text{ d } 5 \text{ min} = 2405 \text{ min}$$

$$1 \text{ h} = 3600 \text{ s}$$

$$1 \text{ d} = 24 \text{ h}$$

$$1 \text{ d} = 2 \text{ h} = 60 \text{ min}$$

3. Sxema bo'yicha teskari masalalar tuzing va ularni yeching.



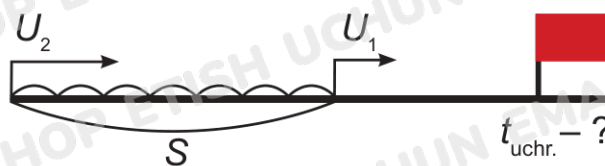
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Odatda, quvlama harakatga doir masalalarda bir obyektning ikkinchi obyektga quvib yetishiga ketgan vaqtni topish kerak bo'ladi.

Yechish rejasi:

- 1) Yaqinlashish tezligini topish.
- 2) Obyektlar orasidagi boshlang'ich masofani aniqlash.
- 3) Obyektlar orasidagi masofani yaqinlashish tezligiga bo'lish.

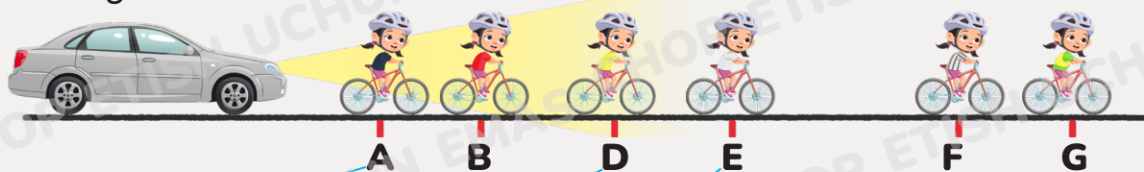


$$t_{\text{yaq.}} = S_0 : v_{\text{yaq.}}$$

4. Velopoyganing oxirgi bosqichida Sardor Akmalidan 120 m masofaga orqada qolayotgan edi. U Akmalga yetib olish uchun tezligini 400 m/min gacha oshirdi. Agar Akmal 370 m/min tezlikda harakatlanayotgan bo'lsa, Sardor raqibini necha minutda quvib yetadi?

5. Madina velosipedda ketayotib, o'zidan 240 metr oldinda piyoda ketayotgan dugonasini ko'rib qoldi. Madina 2 minutda oldinda 50 m/min tezlikda ketayotgan dugonasiga yetib oldi. Madina qanday tezlikda harakatlangan?

6. Velosipedchi uchun sutkaning qorong'i vaqtida kiyimning rangi juda muhimdir. Hisoblang va haydovchi velosipedchining har xil rangdagi kiyimlarini o'zidan qanday masofada aniqlashini bilib oling.



Qora kiyim

Qizil kiyim

Sariq kiyim

Oq kiyim

Nur qaytargichli kiyim

Nur qaytargichli jilet

$$A = 1134 : 7 : 9$$

$$E = (D - 32) \cdot 11$$

$$B = A \cdot 60 : 45$$

$$F = 2 \cdot E + 10$$

$$D = 143 : 11 + B$$

$$G = (F - 70) \cdot 3$$



7. Taqqoslang.

$$m \cdot 35 \quad \square \quad m : 35$$

$$(x + 100) \cdot 3 \quad \square \quad (x + 50) \cdot 3$$

$$420 - a \quad \square \quad 420 + a$$

$$(320 - 15) \cdot y \quad \square \quad 305 \cdot y$$

$$x \cdot 0 \quad \square \quad 0 : x$$

$$400 : m \quad \square \quad 400 \cdot m$$



8. Tenglamalarni yeching.

$$(123 + x) + 75 = 762$$

$$105 + (y + 165) = 870$$



9. Koordinata nurida birlik kesma sifatida 1 cm olib, nuqtalarni qo'yib chiqing. Bu harflardan qanday so'zni o'qish mumkin?

$$E(243 : 9 - 3 \cdot 7)$$

$$K(4800 : 240 - 456 : 76 - 3)$$

$$R(1000 : 100 : 5)$$

$$T(152 : 2 : 2 - 38)$$



10. Teploxod tush paytida pristandan jo'nab ketdi. 3 soatdan keyin shu pristandan shu yo'nalishda kater yo'lga chiqdi. Teploxodning tezligi 30 km/h, katerning tezligi esa 75 km/h. Katerning teploxodga yetib olishi uchun qancha vaqt kerak bo'ladi? Bu vaqtda ular pristandan qanday masofada bo'ladi?



11. Ikki velopoygachi shahardan tashqarida o'tkaziladigan mashg'ulotga borishni kelishib olishdi. Bunda velopoygachilardan biri oldinroq yo'lga chiqib, shahardan 32 km masofaga uzoqlashishga ulgurdi. U 22 km/h tezlikda harakatlandi. Agar ikkinchi velopoygachi 30 km/h tezlikda harakatlansa, qancha vaqtdan keyin birinchi velopoygachini quvib yetadi?



12. Amallarning to'g'ri tartibiga rioya qilgan holda hisoblang.

$$81\,308 - 32 \cdot (8856 - 8639) + 27\,000 : 6$$

$$(18 \cdot 390 - 4095) \cdot (1228 : 4 - 299)$$