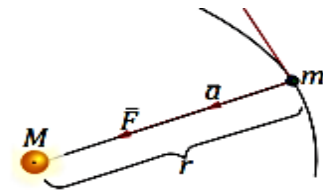


Massasi 1 t bo'lgan avtomobil radiusi 100 m bo'lgan aylana bo'y-
lab o'zgaras 20 m/s tezlik bilan harakatlanmoqda. Avtomobilga
ta'sir qilayotgan markazga intilma kuchni toping.

Berilgan:	Formula:	Hisoblash:
$m = 1 \text{ t} = 1 \cdot 10^3 \text{ kg}$ $R = 100 \text{ m}$ $v = 20 \text{ m/s}$	$F_{mi} = \frac{m v^2}{R}$	$F_{mi} = \frac{1 \cdot 10^3 \text{ kg} \cdot \left(20 \frac{\text{m}}{\text{s}}\right)^2}{100 \text{ m}} = 4 \cdot 10^3 \text{ N} = 4 \text{ kN}$
$F_{mi} = ?$		Javob: $F_{mi} = 4 \text{ kN}$.

2. Yer o'rtacha 30 km/s tezlik bilan orbita bo'ylab harakat qiladi.
Yer orbitasining radiusi $1,5 \cdot 10^8 \text{ km}$ ekanligidan foydalanib Quyosh-
ning massasini toping (1.14-rasm).



1.14-rasm

Berilgan:	Formula:	Hisoblash:
$v = 30 \text{ km/s} = 3 \cdot 10^4 \text{ m/s}$ $R = 1,5 \cdot 10^8 \text{ km} = 1,5 \cdot 10^{11} \text{ m}$ $G = 6,67 \cdot 10^{-11} \text{ N} \cdot \text{m}^2 / \text{kg}^2$	$F = G \frac{Mm}{R^2}; F = ma$	$M = \frac{1,5 \cdot 10^{11} \text{ m} \cdot (3 \cdot 10^4 \text{ m/s})^2}{6,67 \cdot 10^{-11} \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2}} \approx 2 \cdot 10^{30} \text{ kg}$
$M = ?$	$a = \frac{v^2}{R}; M = \frac{R v^2}{G}$	Javob: $M \approx 2 \cdot 10^{30} \text{ kg}$.

3. Ko'lda suv betidagi to'lqin 6 m/s tezlik bilan tarqaladi. Agar

2. Magnit maydonning energiyasi 4 mJ bo'lishi uchun induktivligi
0,2 H bo'lgan g'altak chulg'amidagi tok kuchi qanday bo'lishi lozim?

Berilgan:	Formula:	Hisoblash:
$W = 4 \text{ mJ} = 4 \cdot 10^{-3} \text{ J}$ $L = 0,2 \text{ H}$	$W_{mag} = \frac{L I^2}{2}$	$I = \sqrt{\frac{2 \cdot 4 \cdot 10^{-3} \text{ J}}{0,2 \text{ H}}} = 0,2 \text{ A}$
$I = ?$	$I = \sqrt{\frac{2 \cdot W_{mag}}{L}}$	Javob: $I = 0,2 \text{ A}$.

Induksiyasi 20 mT bo'lgan bir jinsli magnit maydoni kuch chiziqlari bo'yi
4 sm, eni 3 sm bo'lgan to'g'ri to'rtburchakli ramkaga 60° burchak ostida
tushmoqda. Ramkadan o'tayotgan magnit oqimi nimaga teng?

Berilgan:	Formulasi:	Yechilishi:
$B = 20 \text{ mT} = 0,02 \text{ T}$ $a = 4 \text{ sm} = 0,04 \text{ m}$ $b = 3 \text{ sm} = 0,03 \text{ m}$ $\alpha = 60^\circ$	$\Phi = B \cdot S \cos \alpha$	$\Phi = 0,02 \cdot 0,04 \cdot 0,03 \cdot \cos 60^\circ =$
$S = a \cdot b$	$[\Phi] = \text{T} \cdot \text{m}^2 = \text{Wb}$	$= 12 \cdot 10^{-6} \text{ Wb}$
Topish kerak: $\Phi = ?$		Javobi: $\Phi = 12 \cdot 10^{-6} \text{ Wb}$.

