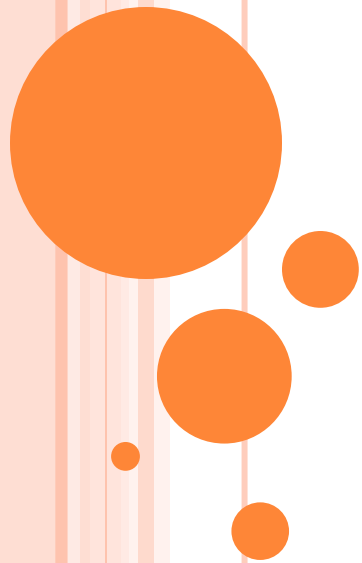




Mavzu:

# Ikkinchi tartibli chiziqlar



Ikkinchi tartibli chizlar

umumiy



$$Ax^2 + 2Bxy + Cy^2 + 2Dx + 2Ey + F = 0$$

Tenglama bilan beriladi

Dastlab ularning sodda

xollari bilan tanishamiz

# 5.1 Aylanma va uning umumiy tenglamasi

**Tarif:**

Markaz deb ataluvchi nuqtadan bir xil masofada yotgan nuqtalar to'plami aylana deyiladi

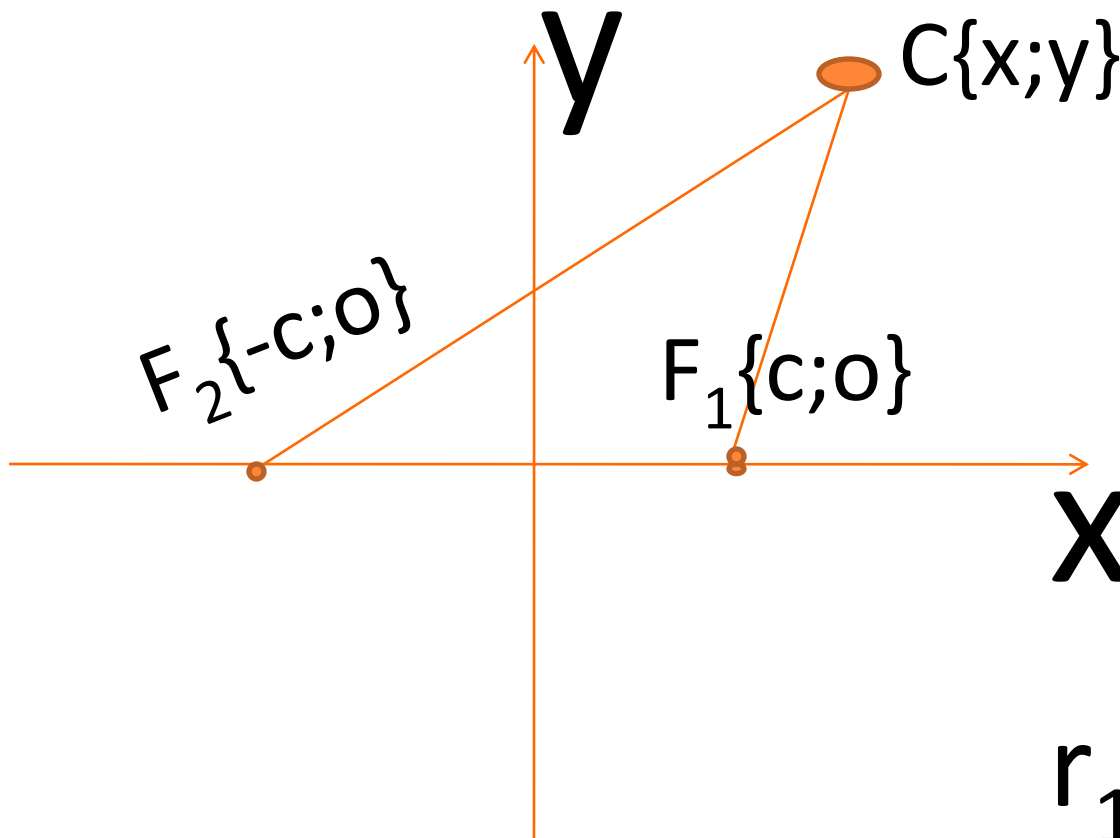
## 5.2 Ellips va uning kanonik tenglamasi

**Tarif:**

**Ixtiyoriy nuqtasidan fokuslar deb ataluvchi berilgan ikki nuqtagacha masofalar yig'indisi o'zgarmas  $2a$  soniga teng bo'ladigan nuqtalar to'plami ellips deb ataladi**



radiuslar



$r_1 r_2$  -fokal

$$r_1 + r_2 = 2a$$



# Misol:

1  $\sqrt{(x - c)^2 - y^2} + \sqrt{(x + c)^2 - y^2} = 2a$

2  $\sqrt{(x + c)^2 - y^2} = 2a\sqrt{(x - c)^2 + y^2}$

$$x^2 + 2xc + c^2 + y^2 + 4a^2 - 4a\sqrt{(x - c)^2 + y^2} = x^2 - 2xc + c^2 + y^2$$



$$a^2(x^2 - 2xc^2 + y^2) = a^4 - 2a^2xc + xc^2$$

$$(a^2 - c^2)x^2 - a^2y^2 = a^2(a^2 - c^2)$$

$$b^2x^2 + a^2y^2 = a^2b^2$$

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$



$E \frac{c}{a} = \text{Elepsning ekssentirisiset}$

eleps 1dan kichik 0 dan katta

*Mana shu ikkita chiziq  
derektrisa deyiladi*





## 5.3 Giperbola va uning kanonik tenglamasi

### Tarif:

Ixtiyoriy nuqtadan fokuslar deb ataluvchi berilgan ikki nuqtagacha bo'lgan masofalar yig'indisi o'zgarmas

2  $a$  soniga teng bo'ladigan nuqtalar yig'indisi

Gipirbola deb ataladi



$$a^2 - c^2 = b^2$$

$$x^2 + 2xc + c^2 + y^2 = 4a^2 + 4a \sqrt{(x - c)^2 + y^2}$$

$$+ x^2 - 2xc + c^2 + y^2$$

$$4a \sqrt{(x - c)^2 + y^2} = -4a^2 + 4xc$$

$$a \sqrt{(x - c)^2 + y^2} = -a^2 + xc$$

$$A^2(x^2 - 2xc + c^2 + y^2) = a^4 - 2a^2xc + x^2c^2$$

$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$$

$$A^2x^2 + a^2c^2 + a^2y^2 = a^4 + x^2c^2$$



## 5.4 Parabola va uning kanonik tenglamasi

Tari

$f$ : Fokus deb ataluvchi nuqtadan va diriktirisa ataluvchi to'g'ri chizig'dan

bir xil masofadan yonboshlab yotuvchi nuqtalar to'plami parabola deb ataladi



**Etibor  
uchun  
raxmat**

