

$$\sqrt{7.25(3,8)} \quad F_{1,2}(\pm 1, 0), \quad P(\sqrt{3}, \frac{\sqrt{3}}{2})$$

$$3) L(x, y) = \frac{x^2}{a^2} + \frac{y^2}{b^2} = 1. \quad L(x_p, y_p) = 0 \Rightarrow$$

$$\Rightarrow \frac{3}{a^2} + \frac{3}{4b^2} = 1$$

$$F_1P + F_2P = 2a \Rightarrow \sqrt{(1-\sqrt{3})^2 + \frac{3}{4}} + \sqrt{(1+\sqrt{3})^2 + \frac{3}{4}} = \sqrt{\frac{19}{4} - 2\sqrt{3}} + \sqrt{\frac{19}{4} + 2\sqrt{3}} =$$

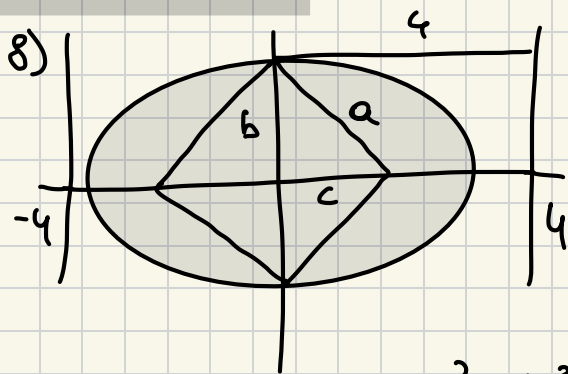
$$= \frac{1}{2} (\sqrt{19-8\sqrt{3}} + \sqrt{19+8\sqrt{3}}) = \frac{1}{2} \sqrt{19-8\sqrt{3} + 19+8\sqrt{3} + 2\sqrt{19^2-3.64}}$$

$$= \frac{1}{2} \sqrt{38 + 2 \cdot 13} = \frac{1}{2} \cdot 8 = 4 \Rightarrow a = 2 \Rightarrow$$

$$\Rightarrow \frac{3}{4} + \frac{3}{4} \frac{1}{b^2} = 1 \Rightarrow b^2 = 3$$

$$(x-x_1)(x-x_2) = x^2 - (x_1+x_2)x + x_1x_2$$

$$a^2 \geq b^2 \Rightarrow L(x, y) = \frac{x^2}{4} + \frac{y^2}{3} = 1$$



$$\frac{a}{c} = e = \frac{c}{a} \Rightarrow a^2 = 4c$$

$$a \cdot \cos 45^\circ = c \Rightarrow$$

$$\Rightarrow a \frac{\sqrt{2}}{2} = a^2 \frac{1}{4} \Rightarrow a = 2\sqrt{2}$$

$$b^2 = a^2 - c^2 = a^2 - \frac{a^4}{16} = 4$$

$$a^2 \geq b^2 \Rightarrow \text{или } \frac{x^2}{8} + \frac{y^2}{4} = 1$$

7.28 хорды: $x+2y=C$. ищут хорд:

$$(x_1, y_1), (x_2, y_2): \frac{(C-2y)^2}{25} + \frac{y^2}{9} = 1 \Rightarrow \text{по Т Виета}$$

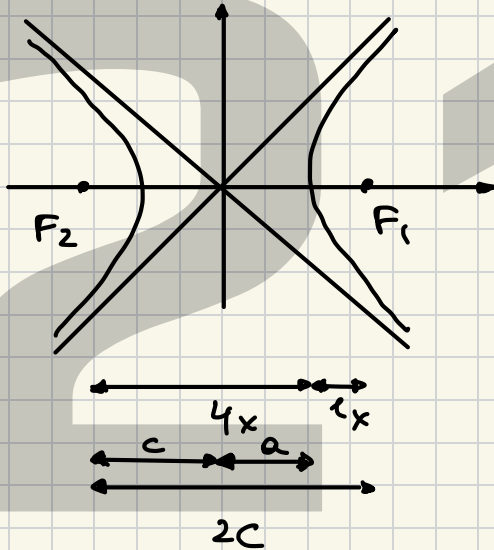
$$\frac{1}{2}(y_1+y_2) = \frac{18}{61}C \Rightarrow \frac{1}{2}(x_1+x_2) = \frac{25}{61}C. (0;0) - \text{центр}$$

или. или \Rightarrow средняя хорды хорды $\Rightarrow (0;0) \leftarrow$

исх. прямой \Rightarrow исх. прямая: $18x - 25y = 0$

№ 7.38 (4, 7)

4) $b = 1$



$$\frac{2c - (c+a)}{c+a} = \frac{c-a}{c+a} = \frac{1}{4} \Rightarrow$$

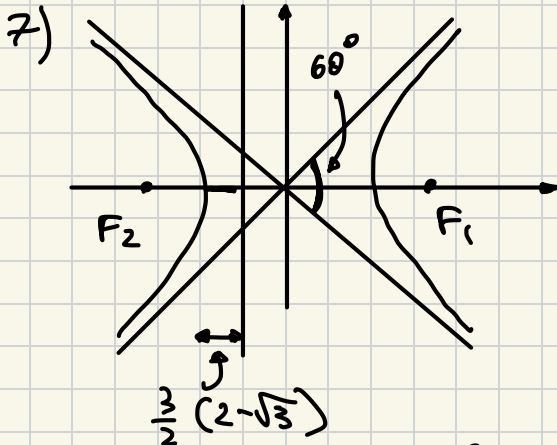
$$\Rightarrow 4c - 4a = c + a \Rightarrow$$

$$\Rightarrow e = \frac{c}{a} = \frac{5}{3}$$

$$c^2 = b^2 + a^2 = 1 + a^2$$

$$\frac{25}{9} a^2 = 1 + a^2 \Rightarrow a^2 = \frac{9}{16} \Rightarrow$$

$$\Rightarrow \text{исх. } \frac{16x^2}{9} - y^2 = 1$$



$$\frac{3}{2} (2 - \sqrt{3}) = a - \frac{a}{e}$$

$$\frac{bx}{a} = y - \text{асимптота}$$

$$\frac{b}{a} = \tan 30^\circ = \frac{\sqrt{3}}{3} \Rightarrow$$

$$\Rightarrow b = \frac{\sqrt{3}}{3} a$$

$$c^2 = b^2 + a^2 = a^2 \left(\frac{1}{3} + 1 \right) = \frac{4}{3} a^2$$

$$\frac{c^2}{a^2} = e^2 = \frac{4}{3} \Rightarrow e = \frac{2}{\sqrt{3}} \Rightarrow$$

$$\Rightarrow a - \frac{a}{e} = a \left(1 - \frac{\sqrt{3}}{2} \right) = \frac{3}{2} (2 - \sqrt{3}) \Rightarrow a = 3 \Rightarrow b = \sqrt{3} \Rightarrow$$

$$\Rightarrow \text{исх. } \frac{16x^2}{9} - \frac{y^2}{3} = 1$$

Донатик

The diagram illustrates the geometric interpretation of the Riemann zeta function's functional equation. It features a coordinate system with two hyperbolas, one opening horizontally and one vertically, intersecting at points labeled F_1 and F_2 on the horizontal axis. A point $M(5, -4)$ is marked on the vertical hyperbola. Below this, a number line is shown with points labeled $-Q/E$ and Q/E , and arrows indicating distances of $2x$ and x .

$$\Rightarrow 10 - 2 \frac{p}{n} = 5 + \frac{p}{n} \Rightarrow$$

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

$$\Rightarrow \frac{25}{a^2} - \frac{16}{c^2 - a^2} = 1 \Rightarrow$$

$$\Rightarrow \frac{25}{a^2} - \frac{16}{\frac{9}{25}a^4 - a^2} = 1;$$

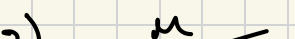
$$9a^4 - 25a^2 - 16a^2 = \frac{9}{25}a^6 - a^4 \quad | : a^2 \quad (a \neq 0)$$

$$\frac{9}{25}a^4 - 10a^2 - 41 = 0$$

$$Q^2 = 5 \text{ mm} \cdot a^2 = \frac{205}{10} \Rightarrow \epsilon = \frac{3}{5} a = \frac{3}{5} \sqrt{\frac{15}{5}}$$

$$1) \quad y^L = 2px \Rightarrow 25 = 2p \cdot 5 \Rightarrow p = \frac{5}{2} \Rightarrow \text{учи. } y^2 = 5x$$

2) $F(\frac{P}{2}, 0)$ глуп.: $x = -\frac{P}{2} \Rightarrow P = 12 \Rightarrow$ учк. $y^2 = 24x$

3) 
$$\begin{cases} x_M + p/2 = (x_M - p/2) \frac{1}{\sin 45^\circ} \\ x_T + p/2 = (p/2 - x_T) \frac{1}{\sin 45^\circ} \end{cases} \Rightarrow$$

$$\Rightarrow \begin{cases} x_M = \frac{p}{2} (3 + 2\sqrt{2}) \\ x_T = \frac{p}{2} (3 - 2\sqrt{2}) \Rightarrow p = \frac{10}{\sqrt{2}} \Rightarrow \\ x_M - x_T = 9\sqrt{2} \end{cases}$$

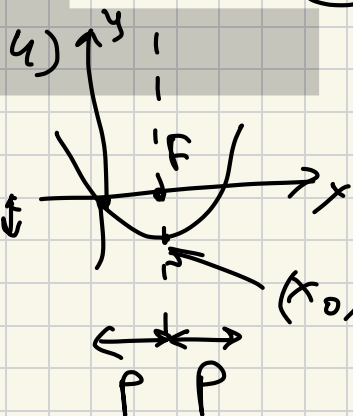
$$\Rightarrow \text{исх. } y^2 = 9x$$

$$\sqrt{7.62}(2,4)$$

2) вершина параболы F и $\partial \text{цн.} \Rightarrow$

$$\Rightarrow \text{верш. в т. } (7,5,0), p = 8 - 7 = 1$$

$$\Rightarrow \text{исх. } y^2 = 2(-x + 7,5) = -2x + 15, x \leq 7,5$$



$$2p = 6 \Rightarrow p = 3$$

$$(x_0, y_0) = \left(p, -\frac{p}{2}\right) = \left(3, -\frac{3}{2}\right)$$

$$(x - x_0)^2 = 2p(y - y_0)$$

$$(x - 3)^2 = 6\left(y + \frac{3}{2}\right) - \text{исх.}$$