

Reprezentarea grafica a conicelor

Se considera un sistem de axe ortogonale XOY

Date	Formule
Ecuatia cercului de centru $A(a, b)$ si de raza $r > 0$, notat $C(A, r)$	$(x - a)^2 + (y - b)^2 = r^2$
Ecuatia cercului de centru $O(0, 0)$ si de raza $r > 0$, notat $C(O, r)$	$x^2 + y^2 = r^2$
Ecuatia tangentei la cerc in punctul $M(x_0, y_0) \in C(A, r)$ unde $A(a, b)$ si $r > 0$	$(x - a)(x_0 - a) + (y - b)(y_0 - b) = r^2$
Ecuatia tangentei la cerc in punctul $M(x_0, y_0) \in C(O, r)$ unde $O(0, 0)$	$xx_0 + yy_0 = r^2$
Ecuatia elipsei raportata la axele ei de simetrie AA' si BB' unde $A(a, 0)$, $A'(-a, 0)$, $B(0, b)$ si $B'(0, -b)$, $a, b > 0$, notata $\mathcal{E}(a, b)$	$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$
Ecuatia tangentei la elipsa de ecuatie $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ in punctul $M(x_0, y_0) \in \mathcal{E}(a, b)$	$\frac{xx_0}{a^2} + \frac{yy_0}{b^2} = 1$
Ecuatia hiperbolei cu focarele pe axa OX , $a > 0$ si $b > 0$, notata $H(a, b)$	$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$
Ecuatiile asimptotelor la graficul hiperbolei $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$, $a > 0$ si $b > 0$	$y = \frac{b}{a}x$ si $y = -\frac{b}{a}x$.
Ecuatia tangentei la hiperbola de ecuatie $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$, in punctul $M(x_0, y_0) \in H(a, b)$	$\frac{xx_0}{a^2} - \frac{yy_0}{b^2} = 1$
Ecuatia parabolei care are ca axa de simetrie axa OX , varful $O(0, 0)$ si focarul $F\left(\frac{p}{2}, 0\right)$, $p > 0$, notata $P\left(O, \frac{p}{2}\right)$	$y^2 = 2px$
Ecuatia tangentei la parabola de ecuatie $y^2 = 2px$ in punctul $M(x_0, y_0) \in P\left(O, \frac{p}{2}\right)$	$yy_0 = p(x + x_0)$