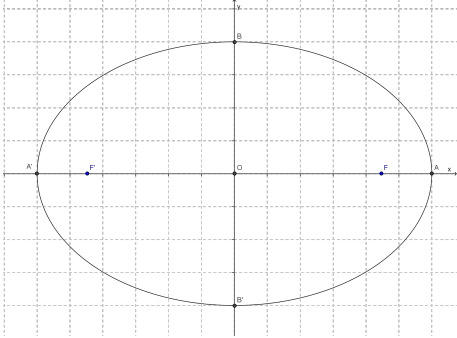
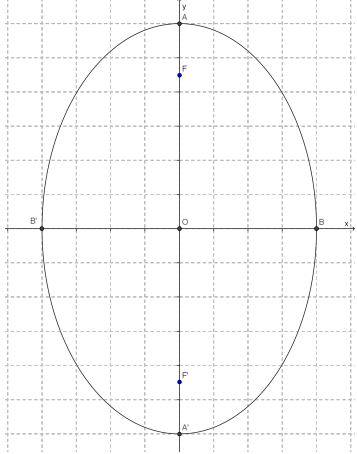
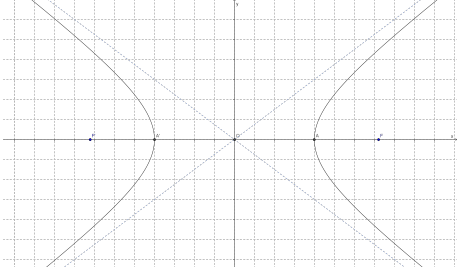
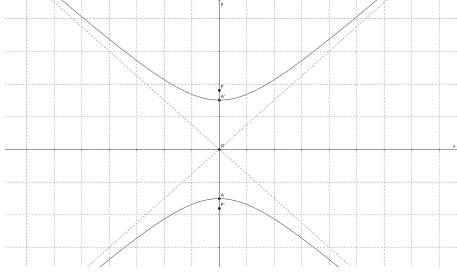


1 L'ellipse

<i>Ellipse centrée en $O(0,0)$</i>	
Axe focal Ox	Axe focal Oy
$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$	$\frac{x^2}{b^2} + \frac{y^2}{a^2} = 1$
$a > b$	$a < b$
	
Sommets	
$A(a,0)$ $A'(-a,0)$ $B(0,b)$ $B'(0,-b)$	$A(0,a)$ $A'(0,-a)$ $B(b,0)$ $B'(-b,0)$
Foyers	
$F(c,0)$ $F'(-c,0)$	$F(0,c)$ $F'(0,-c)$
$c^2 = a^2 - b^2$	
Tangente au point $A(x_A, y_A)$	
$\frac{xx_A}{a^2} + \frac{yy_A}{b^2} = 1$	$\frac{yy_A}{a^2} + \frac{xx_A}{b^2} = 1$

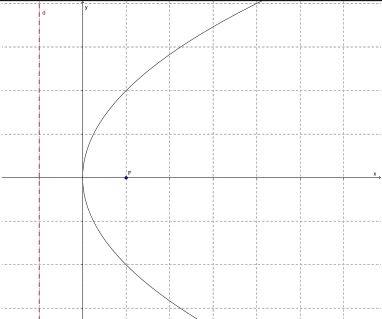
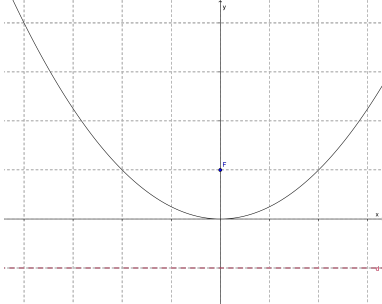
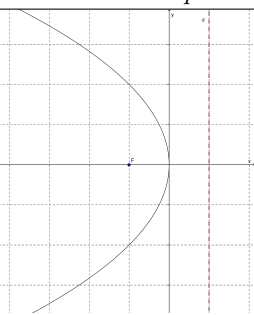
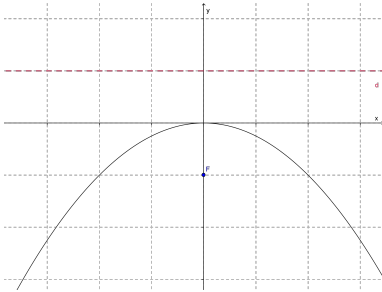
<i>Ellipse centrée en $C(x_C, y_C)$</i>	
Axe focal Ox	Axe focal Oy
$\frac{(x - x_C)^2}{a^2} + \frac{(y - y_C)^2}{b^2} = 1$	$\frac{(x - x_C)^2}{b^2} + \frac{(y - y_C)^2}{a^2} = 1$
$a > b$	$a < b$
Sommets	
$A(a + x_C, y_C)$ $A'(-a + x_C, y_C)$ $B(x_C, b + y_C)$ $B'(x_C, -b + y_C)$	$A(x_C, a + y_C)$ $A'(x_C, -a + y_C)$ $B(b + x_C, y_C)$ $B'(-b + x_C, y_C)$
Foyers	
$F(c + x_C, y_C)$ $F'(-c + x_C, y_C)$	$F(x_C, c + y_C)$ $F'(x_C, -c + y_C)$
$c^2 = a^2 - b^2$	
Tangente au point $A(x_A, y_A)$	
$\frac{(x - x_C)x_A}{a^2} + \frac{(y - y_C)y_A}{b^2} = 1$	$\frac{(y - y_C)y_A}{a^2} + \frac{(x - x_C)x_A}{b^2} = 1$

2 L'hyperbole

<i>Hyperbole centrée en $O(0,0)$</i>	
Axe focal Ox	Axe focal Oy
$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$	$\frac{y^2}{a^2} - \frac{x^2}{b^2} = 1$
	
Sommets	
$A(a, 0)$ $A'(-a, 0)$	$A(0, a)$ $A'(0, -a)$
Foyers	
$F(c, 0)$ $F'(-c, 0)$	$F(0, c)$ $F'(0, -c)$
$c^2 = a^2 + b^2$	
Asymptotes	
$AO \equiv y = \pm \frac{b}{a}x$	$AO \equiv y = \pm \frac{a}{b}x$
Tangente au point $A(x_A, y_A)$	
$\frac{xx_A}{a^2} - \frac{yy_A}{b^2} = 1$	$\frac{yy_A}{a^2} - \frac{xx_A}{b^2} = 1$

<i>Hyperbole centrée en $C(x_C, y_C)$</i>	
Axe focal Ox	Axe focal Oy
$\frac{(x - x_C)^2}{a^2} - \frac{(y - y_C)^2}{b^2} = 1$	$\frac{(y - y_C)^2}{a^2} - \frac{(x - x_C)^2}{b^2} = 1$
Sommets	
$A(a + x_C, y_C)$ $A'(-a + x_C, y_C)$	$A(x_C, a + y_C)$ $A'(x_C, -a + y_C)$
Foyers	
$F(c + x_C, y_C)$ $F'(-c + x_C, y_C)$	$F(x_C, c + y_C)$ $F'(x_C, -c + y_C)$
$c^2 = a^2 - b^2$	
Asymptotes	
$AO \equiv (y - y_C) = \pm \frac{b}{a}(x - x_C)$	$AO \equiv (y - y_C) = \pm \frac{a}{b}(x - x_C)$
Tangente au point $A(x_A, y_A)$	
$\frac{(x - x_C)x_A}{a^2} - \frac{(y - y_C)y_A}{b^2} = 1$	$\frac{(y - y_C)y_A}{a^2} - \frac{(x - x_C)x_A}{b^2} = 1$

3 La parabole

Parabole de sommet $O(0,0)$	
Axe focal Ox	Axe focal Oy
$y^2 = 2px$	$x^2 = 2py$
$p > 0$: parabole dirigée vers les axes positifs	
	
$p < 0$: parabole dirigée vers les axes négatifs	
	
Sommet	
$S(0,0)$	$S(0,0)$
Foyers	
$F : \left(\frac{p}{2}, 0\right)$	$F : \left(0, \frac{p}{2}\right)$
Directrice	
$d \equiv x = -\frac{p}{2}$	$d \equiv y = -\frac{p}{2}$
Tangente au point $A(x_A, y_A)$	
$yy_A = p(x + x_A)$	$xx_A = p(y + y_A)$

Parabole de sommet $S(x_C, y_C)$	
Axe focal Ox	Axe focal Oy
$(y - y_C)^2 = 2p(x - x_C)$	$(x - x_C)^2 = 2p(y - y_C)$
$p > 0$: parabole dirigée vers les axes positifs	
$p < 0$: parabole dirigée vers les axes négatifs	
Sommet	
$S(x_C, y_C)$	$S(x_C, y_C)$
Foyers	
$F\left(\frac{p}{2} + x_C, y_C\right)$	$F\left(x_C, y_C + \frac{p}{2}\right)$
Directrice	
$d \equiv x = x_C - \frac{p}{2}$	$d \equiv y = y_C - \frac{p}{2}$
Tangente au point $A(x_A, y_A)$	
$(y - y_C)y_A = p(x - x_C + x_A)$	$(x - x_C)x_A = p(y - y_C + y_A)$