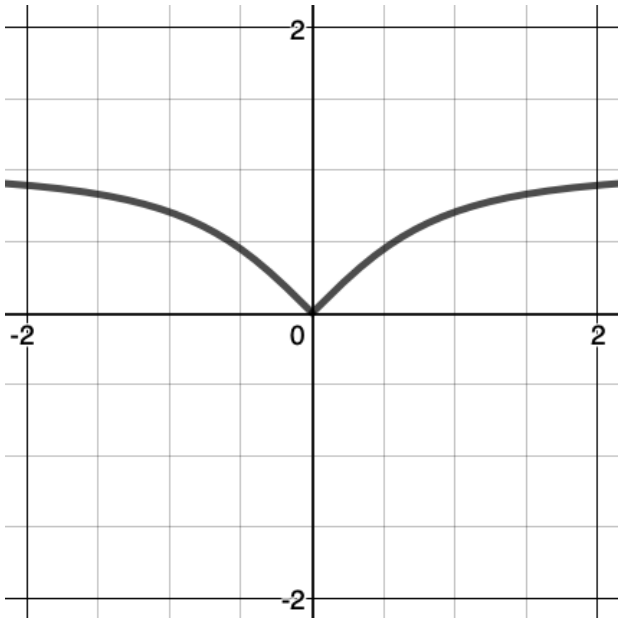
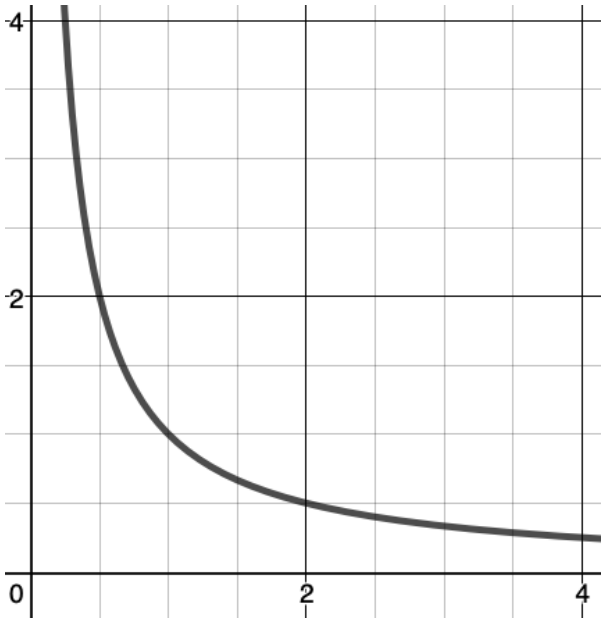
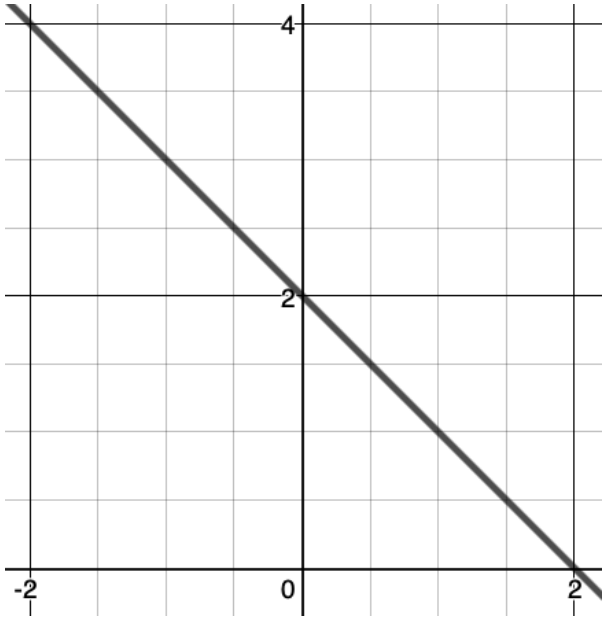
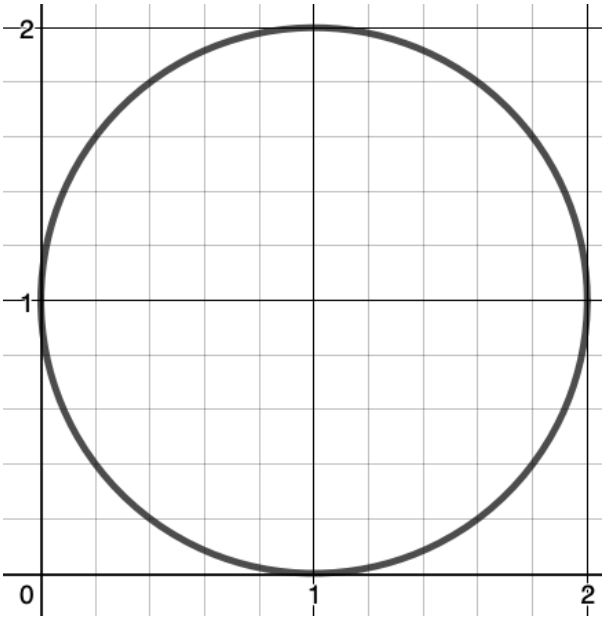
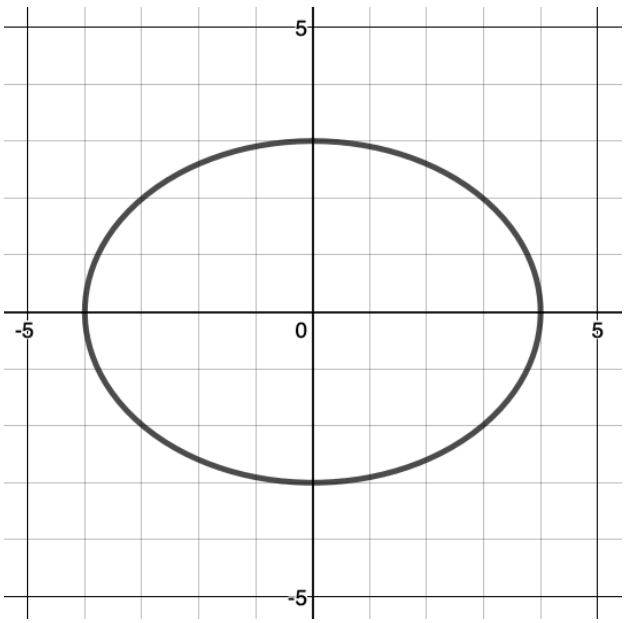
Parametric Functions











The equation of the tangent at $\frac{\pi}{4}$ is $y = -x + 2 + \sqrt{2}$.	At the points A, B on the curve $t = 1$ and $t = 2$. The area between the curve, the $x-$axis and the lines through A and B parallel to the $y-$axis is $\ln(2) - \ln(1)$.
$(x-1)^2 + (y-1)^2 = 1$	$x = \tan(t), \quad y = \sin(t), \quad 0 \leq t < \pi$
At the points A, B on the curve $t = \frac{\pi}{6}$ and $t = \frac{\pi}{3}$. The area between the curve, the $x-$axis and the lines through A and B parallel to the $y-$axis is $2 - \frac{2}{\sqrt{3}}$	$x = 4\sin(t), \quad y = 3\cos(t), \quad 0 \leq t < 2\pi$
$x = 3t, \quad y = \frac{1}{3t}, \quad \frac{1}{2} < t < 10$	The tangent to the curve, when $t = 1$ meets the $y-$axis at $y = \frac{2}{3}$
The equation of the tangent to the curve at $t = \frac{\pi}{4}$ is $y = \frac{\sqrt{2}}{4}x + \frac{\sqrt{2}}{4}$	$\frac{x^2}{16} + \frac{y^2}{9} = 1$
At the points A, B on the curve $t = \frac{\pi}{6}$ and $t = \frac{\pi}{3}$. The area between the curve, the $x-$axis and the lines through A and B parallel to the $y-$axis is π	$x = 1 + t, \quad y = 1 - t, \quad -10 \leq t \leq 10$
The equation of the normal when $t = 0$ is $y = x$.	$y = \sin(\arctan(x))$
$y = \frac{1}{x}$	At the points A, B on the curve $t = \frac{\pi}{6}$ and $t = \frac{\pi}{3}$. The area between the curve, the $x-$axis and the lines through A and B parallel to the $y-$axis is $\frac{1}{12}\left(6 - 6\sqrt{3} - \pi\right)$
$x = 1 + \cos(t), \quad y = 1 + \sin(t), \quad 0 \leq t < 2\pi$	$y = -x + 2$
At the points A, B on the curve $t = 1$ and $t = 2$. The area between the curve, the $x-$axis and the lines through A and B parallel to the $y-$axis is $\frac{1}{2}$	The normal to the curve $t = \frac{\pi}{4}$ crosses the axis at the point $\left(\frac{7\sqrt{2}}{8}, 0\right)$.