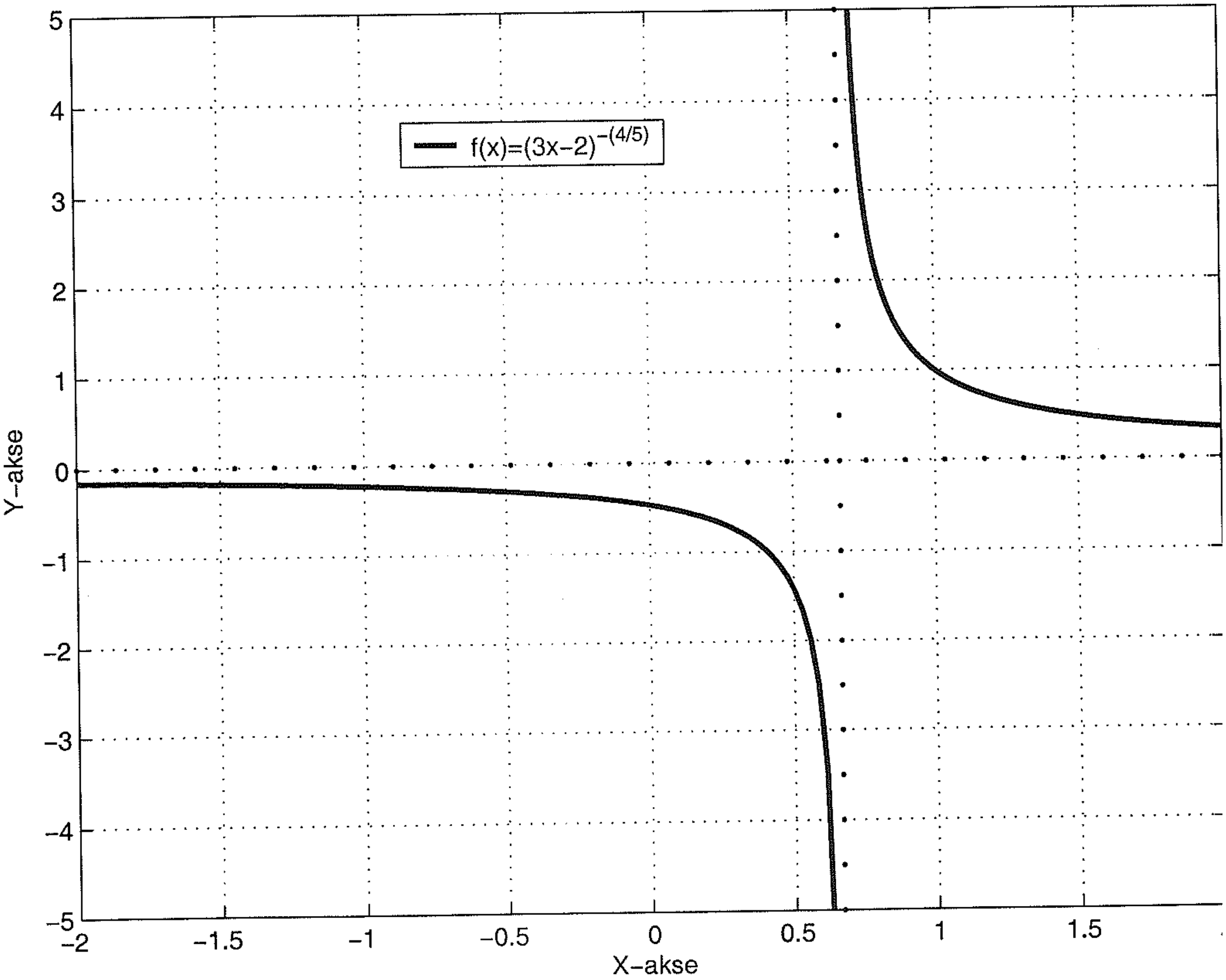
VIS:

$$\int e^{ax} \sin bx \, dx = \frac{e^{ax}}{a^2+b^2}\left(a \sin bx - b \cos bx\right) + C$$

$$\int e^{ax} \cos bx \, dx = \frac{e^{ax}}{a^2+b^2}\left(a \cos bx + b \sin bx\right) + C$$



$$\sin^2\theta = \tfrac{1}{2}(1-\cos 2\theta),$$
$$\cos^2\theta = \tfrac{1}{2}(1+\cos 2\theta)$$

To integrate $\tan^2 x$ and $\cot^2 x$, we use the identities

$$1+\tan^2 x = \sec^2 x \quad \text{and} \quad 1+\cot^2 x = \csc^2 x.$$

$$\int_a^\infty f(x)\,dx = \lim_{t\to\infty}\int_a^t f(x)\,dx$$
$$\int_{-\infty}^b f(x)\,dx = \lim_{t\to-\infty}\int_t^b f(x)\,dx$$
$$\int_{-\infty}^\infty f(x)\,dx = \int_{-\infty}^c f(x)\,dx + \int_c^\infty f(x)\,dx$$

$$\int_a^b f(x)\,dx = \lim_{t\to b^-}\int_a^t f(x)\,dx,$$
$$\int_a^b f(x)\,dx = \lim_{t\to a^+}\int_t^b f(x)\,dx$$
$$\int_a^b f(x)\,dx = \int_a^c f(x)\,dx + \int_c^b f(x)\,dx$$