# $f(x, y) = 0$의 확대와 축소
(Scale of $f(x, y) = 0$)

# Scale of $f(x, y) = 0$

Start End

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$$\mathrm{T} : (x, y)$$

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$$\mathrm{T} : (x, y) \quad \rightarrow$$

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$$\mathrm{T} : (x, y) \quad \rightarrow \quad (ax, by)\ (a \neq 0, b \neq 0)$$

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$$\begin{array}{rcl} \mathrm{T} : (x, y) & \rightarrow & (ax, by)\ (a \neq 0, b \neq 0) \\ X = ax & , & Y = by \end{array}$$

# Scale of $f(x, y) = 0$

Start End

$$
\begin{aligned}
\mathrm{T} : (x, y) &\rightarrow (ax, by)\ (a \neq 0, b \neq 0) \\
X = ax &\quad , \quad Y = by \\
x = \frac{X}{a}
\end{aligned}
$$

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\begin{aligned}
\mathrm{T} : (x, y) &\rightarrow (ax, by)\ (a \neq 0, b \neq 0) \\
X = ax &, \quad Y = by \\
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\end{aligned}
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X = ax &\quad , \quad Y = by \\
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\end{aligned}
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$$
f(x, y) = f\left(\frac{X}{a}, \frac{Y}{b}\right)
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$$

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f(x, y) = f\left(\frac{X}{a}, \frac{Y}{b}\right)\ , f\left(\frac{X}{a}, \frac{Y}{b}\right) = 0
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$$
f(x, y) = f\left(\frac{X}{a}, \frac{Y}{b}\right)\ , f\left(\frac{X}{a}, \frac{Y}{b}\right) = 0 \therefore g(X, Y) = f\left(\frac{X}{a}, \frac{Y}{b}\right)
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$$f(x, y) = 0 \qquad \rightarrow \qquad g(x, y) = 0$$

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Github:
https://min7014.github.io/math20211028001.html

Click or paste URL into the URL search bar, and you can see a picture moving.