

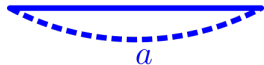
# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

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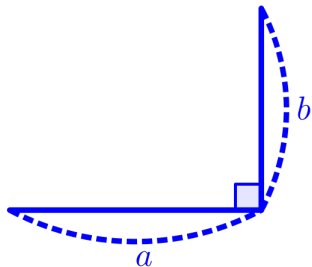
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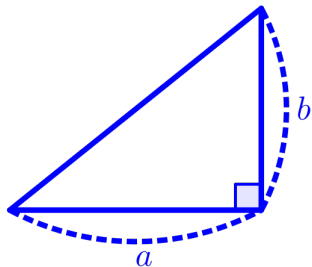
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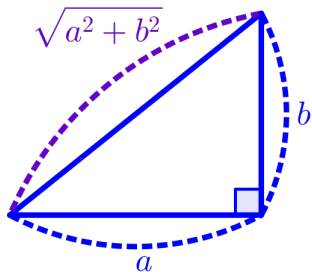
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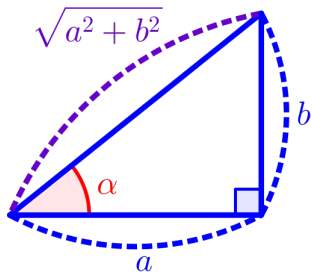
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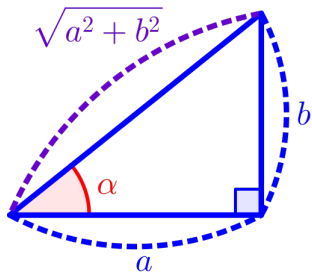
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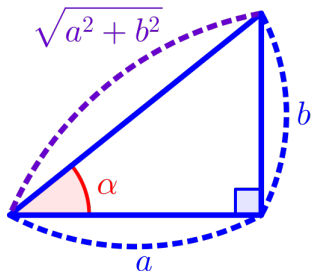
$$a \sin \theta + b \cos \theta \quad (a > 0, b > 0)$$
$$= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right)$$





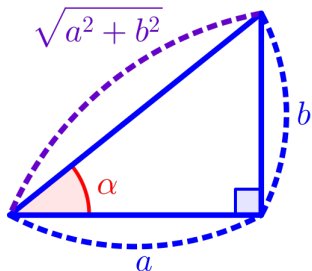
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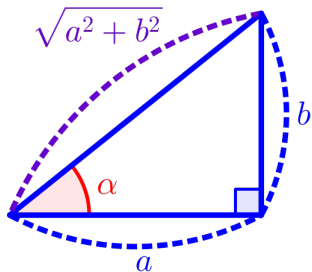
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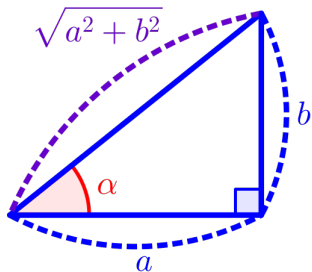
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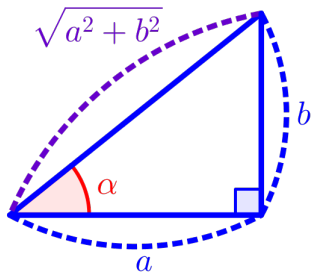
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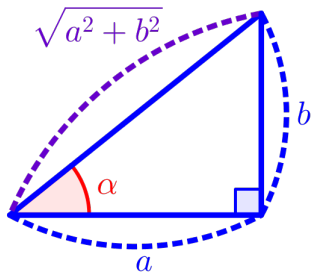
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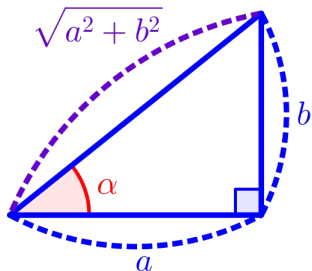
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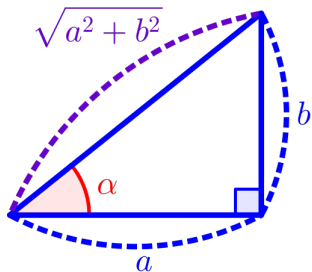
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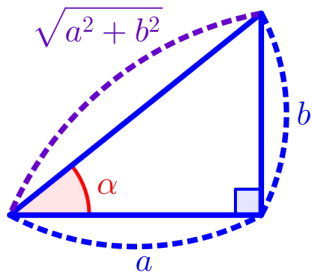
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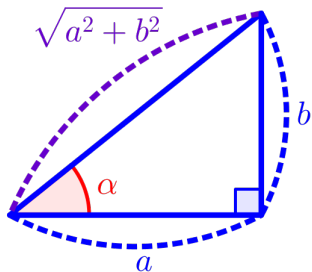
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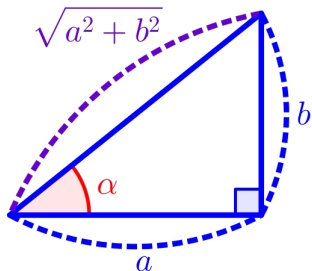
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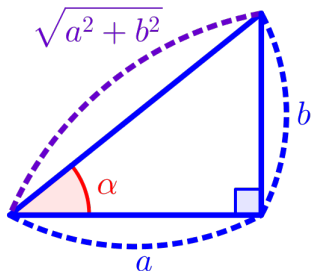
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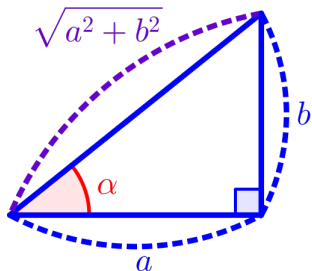
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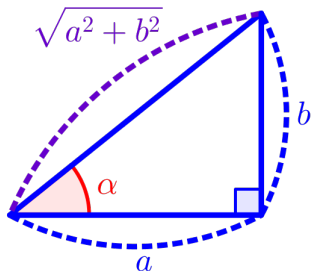
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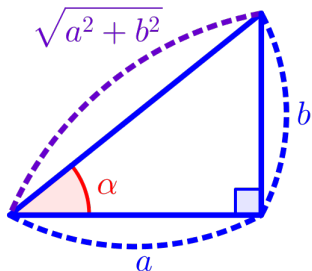
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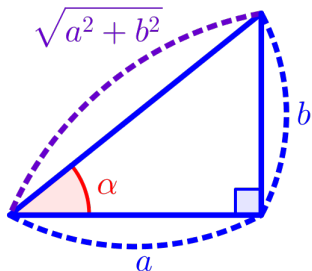
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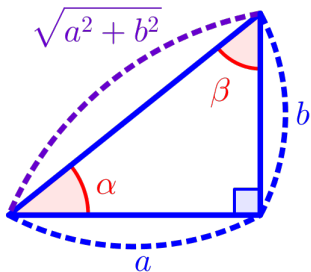




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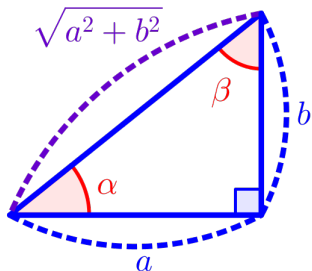
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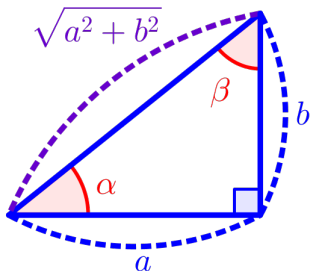
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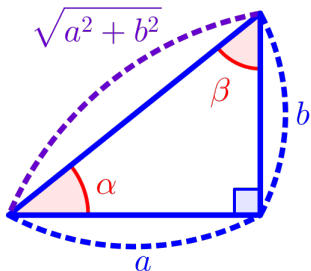
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \end{aligned}$$



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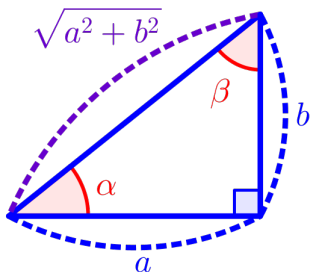
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

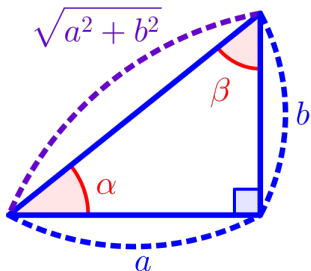
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

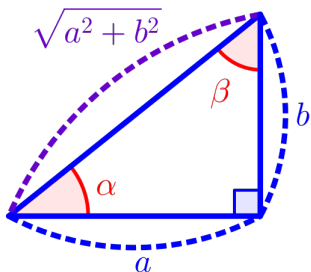
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

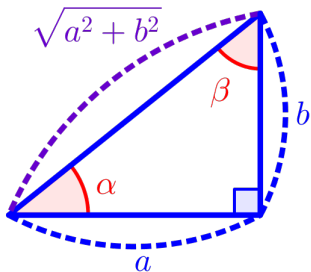
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \end{aligned}$$

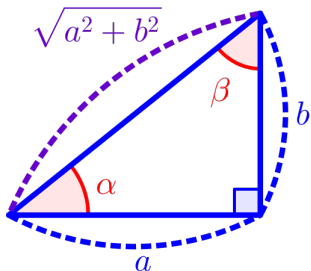




# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

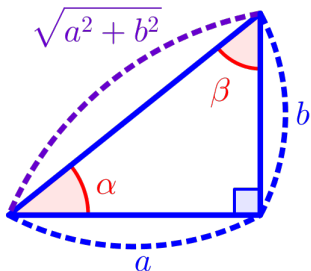
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

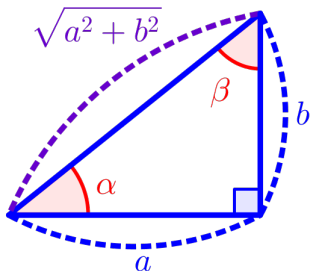
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ &\left( \cos \beta = \right. \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

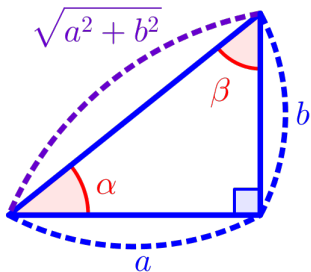
$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ &\left( \cos \beta = \frac{b}{\sqrt{a^2 + b^2}}, \right) \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ &\left( \cos \beta = \frac{b}{\sqrt{a^2 + b^2}}, \quad \sin \beta = \right. \end{aligned}$$



# 삼각함수의 합성 $a \sin \theta + b \cos \theta$ ( $a > 0, b > 0$ )

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\cos \alpha \sin \theta + \sin \alpha \cos \theta) \\ &= \sqrt{a^2 + b^2} (\sin \theta \cos \alpha + \cos \theta \sin \alpha) \\ &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \sin(\theta + \alpha) \\ &\left( \cos \alpha = \frac{a}{\sqrt{a^2 + b^2}}, \quad \sin \alpha = \frac{b}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

$$\begin{aligned} & a \sin \theta + b \cos \theta \quad (a > 0, b > 0) \\ &= \sqrt{a^2 + b^2} \left( \frac{a}{\sqrt{a^2 + b^2}} \sin \theta + \frac{b}{\sqrt{a^2 + b^2}} \cos \theta \right) \\ &= \sqrt{a^2 + b^2} (\sin \beta \sin \theta + \cos \beta \cos \theta) \\ &= \sqrt{a^2 + b^2} (\cos \theta \cos \beta + \sin \theta \sin \beta) \\ &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ \therefore a \sin \theta + b \cos \theta &= \sqrt{a^2 + b^2} \cos(\theta - \beta) \\ &\left( \cos \beta = \frac{b}{\sqrt{a^2 + b^2}}, \quad \sin \beta = \frac{a}{\sqrt{a^2 + b^2}} \right) \end{aligned}$$

