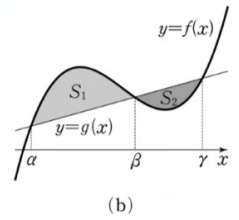
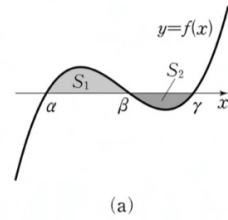


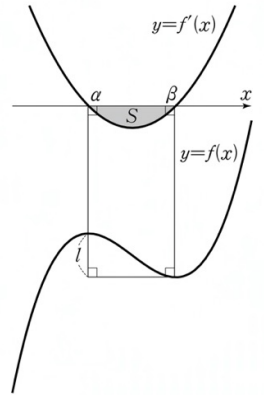
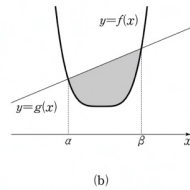
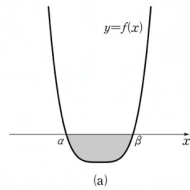
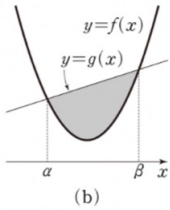
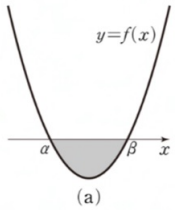
정적분 넓이 공식 모음

$$\int_{\alpha}^{\beta} (x - \alpha)^m (\beta - x)^n dx = \frac{m!n!}{(m+n+1)!} (\beta - \alpha)^{m+n+1}$$

↳ 일반화



직접 계산하는 것이 수월함



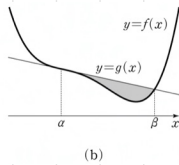
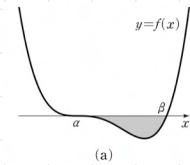
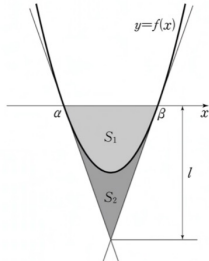
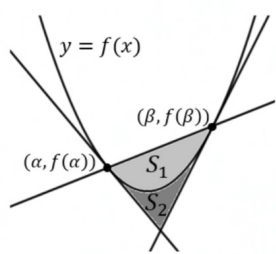
$$\left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{6} (\beta - \alpha)^3$$

$$(a) \left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{20} (\beta - \alpha)^5$$

$$(b) \left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{20} (\beta - \alpha)^5 + \frac{|a|}{6} (\beta - \alpha)^3$$

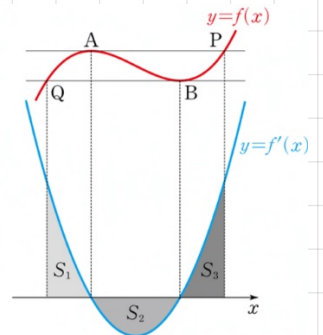
$$\left| \int_{\alpha}^{\beta} f(x) - g(x) dx \right| = \frac{|a|}{6} (\beta - \alpha)^3$$

$$S = \frac{|a|}{2} (\beta - \alpha)^3 = l$$



$$(a) \left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{20} (\beta - \alpha)^5$$

$$(b) \left| \int_{\alpha}^{\beta} f(x) - g(x) dx \right| = \frac{|a|}{20} (\beta - \alpha)^5$$

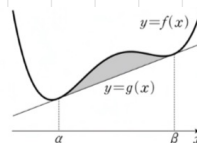
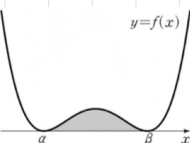


$$S_1 = \frac{|a|}{6} (\beta - \alpha)^3$$

$$S_2 = \frac{|a|}{12} (\beta - \alpha)^3$$

$$\sum S = \frac{|a|}{4} (\beta - \alpha)^3$$

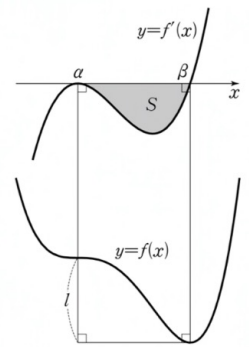
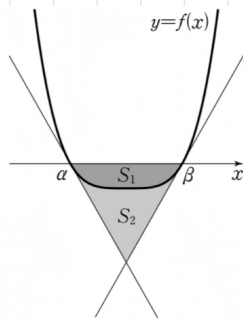
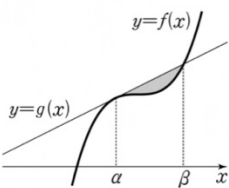
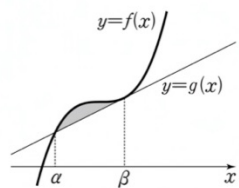
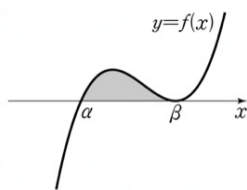
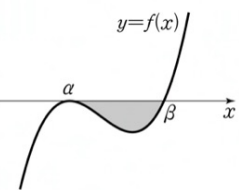
$$S_1 = S_2 = S_3$$



$$\left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{30} (\beta - \alpha)^5$$

$$\left| \int_{\alpha}^{\beta} f(x) - g(x) dx \right| = \frac{|a|}{30} (\beta - \alpha)^5$$

$$S = \frac{|a|}{3} (\beta - \alpha)^4 = l$$



$$\left| \int_{\alpha}^{\beta} f(x) dx \right| = \frac{|a|}{12} (\beta - \alpha)^4$$

$$S_1 = \frac{|a|}{20} (\beta - \alpha)^5$$

$$S_2 = \frac{3|a|}{40} (\beta - \alpha)^5$$

$$\left| \int_{\alpha}^{\beta} f(x) - g(x) dx \right| = \frac{|a|}{12} (\beta - \alpha)^4$$

$$\sum S = \frac{|a|}{8} (\beta - \alpha)^5$$

*참고 $\sum S = S_1 + S_2$