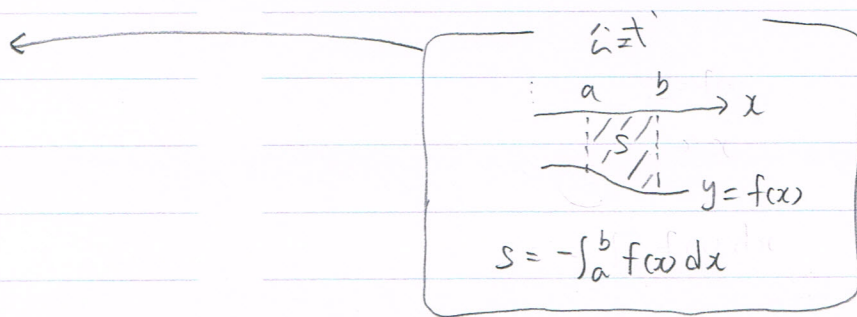
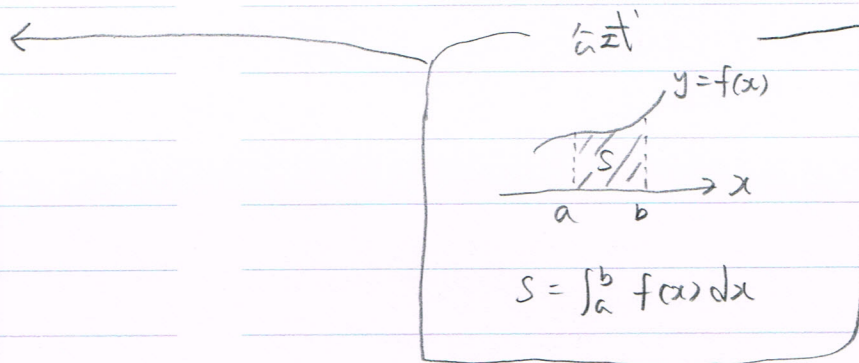


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$$\begin{aligned}
 S_1 &= -\int_0^2 (x^2 - 2x) dx \\
 &= -\left[\frac{1}{3}x^3 - x^2\right]_0^2 \\
 &= -\left\{\left(\frac{8}{3} - 4\right) - (0 - 0)\right\} \\
 &= -\frac{8}{3} + 4 \\
 &= \frac{4}{3}
 \end{aligned}$$



$$\begin{aligned}
 S_2 &= \int_2^a (x^2 - 2x) dx \\
 &= \left[\frac{1}{3}x^3 - x^2\right]_2^a \\
 &= \left(\frac{a^3}{3} - a^2\right) - \left(\frac{8}{3} - 4\right) \\
 &= \frac{1}{3}a^3 - a^2 + \frac{4}{3}
 \end{aligned}$$



$$S_1 = S_2 \text{ かつ}$$

$$\frac{1}{3}a^3 - a^2 + \frac{4}{3} = \frac{4}{3}$$

$$\frac{1}{3}a^3 - a^2 = 0$$

$$a^3 - 3a^2 = 0$$

$$a^2(a-3) = 0$$

$$a = 0, 3$$

$$a > 0 \text{ かつ}$$

$$\therefore a = 3$$