

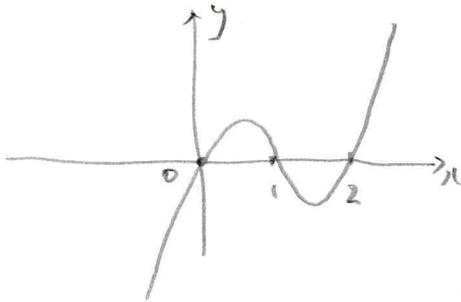
2B $\left| \frac{1}{x} - 2 \right|$ $x > 2$

✓

曲線 $y = x^3 - 3x^2 + 2x$ と x 軸で囲まれた 2 つの部分の面積の和を求めよ。

$$y = x(x^2 - 3x + 2)$$

$$y = x(x-1)(x-2)$$



$$\begin{aligned} & \int_0^1 (x^3 - 3x^2 + 2x) dx + \int_1^2 (-x^3 + 3x^2 - 2x) dx \\ &= \left[\frac{1}{4}x^4 - x^3 + x^2 \right]_0^1 + \left[-\frac{1}{4}x^4 + x^3 - x^2 \right]_1^2 \\ &= \left\{ \left(\frac{1}{4} - 1 + 1 \right) - 0 \right\} + \left\{ \left(-\frac{1}{4} + 8 - 4 \right) - \left(-\frac{1}{4} + 1 - 1 \right) \right\} \\ &= \frac{1}{4} + \frac{1}{4} \\ &= \frac{1}{2} \end{aligned}$$