

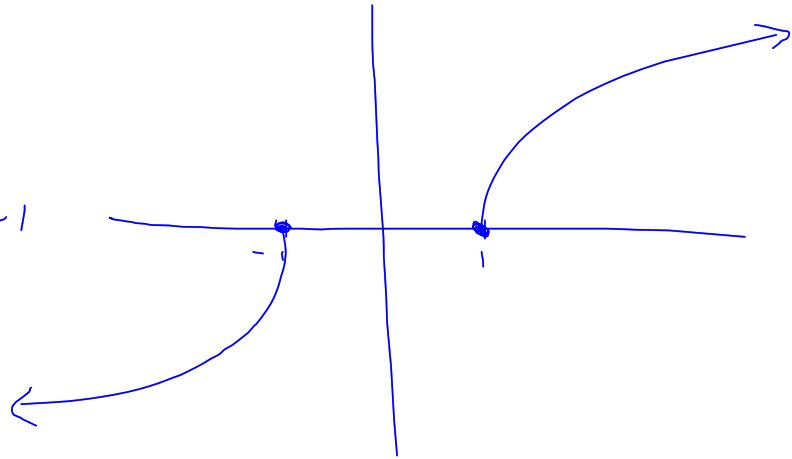
$$9 \quad y = x\sqrt{x^2-1}$$

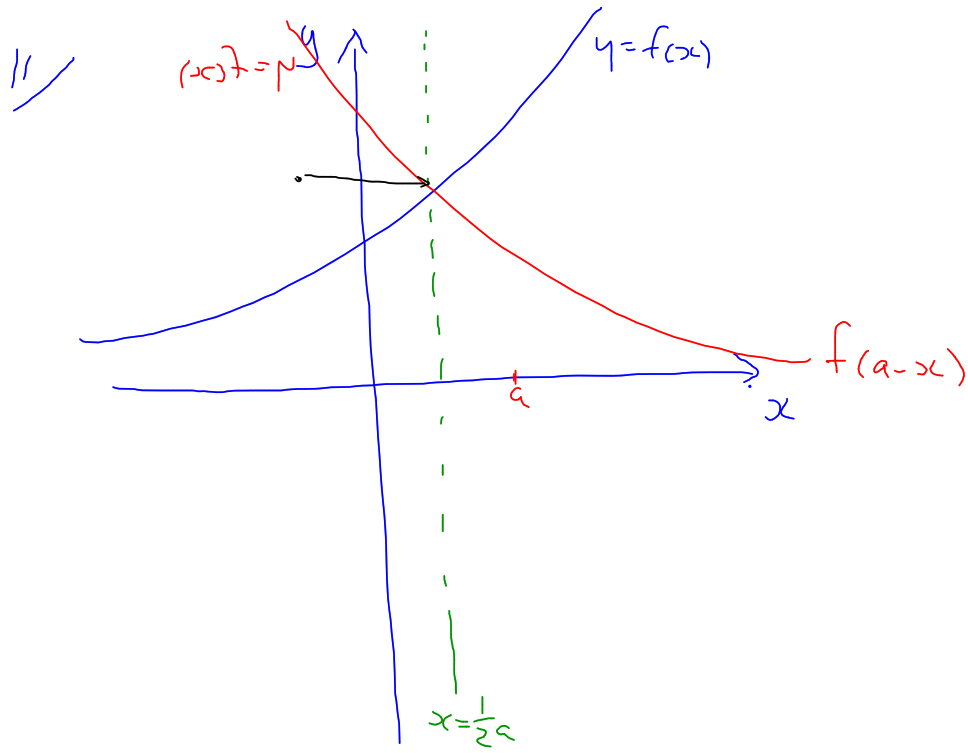
$$D: x^2-1 \geq 0$$

$$x^2 \geq 1$$

$$x \leq -1 \text{ and } x \geq 1$$

$$y' = \frac{2x^2-1}{\sqrt{x^2-1}}$$





$$\begin{aligned}
& \int_0^4 x(4-x)^4 dx \\
&= \int_0^4 (4-x)x^4 dx \\
&= \int_0^4 (4x^4 - x^5) dx \\
&= \left[\frac{4}{5}x^5 - \frac{1}{6}x^6 \right]_0^4 \\
&= \frac{4096}{5} - \frac{4096}{6} \\
&= \frac{4096}{30} \\
&= \frac{2048}{15} \\
&= \underline{\underline{\quad}}
\end{aligned}$$

$$\textcircled{1} \quad y = f(x) \quad \text{shift } \frac{1}{2}a \leftarrow \quad y = f\left(x - \frac{1}{2}a\right)$$

$$y = f(a-x) \quad \text{shift } \frac{1}{2}a \leftarrow \quad y = f\left(a-x - \frac{1}{2}a\right) \\ = f\left(\frac{1}{2}a - x\right)$$

$$\text{let } X = x - \frac{1}{2}a$$

$$\textcircled{1} \quad y = f(X)$$

$$\textcircled{2} \quad y = f(-X)$$

// (1)

$$Y = f\left(x - \frac{1}{2}a\right)$$

$$Y = f\left(-x + \frac{1}{2}a\right)$$

$$y = f\left(x - \frac{1}{2}a\right)$$

$$y = f(x)$$

$$y = f(x) \in \mathbb{Z}$$

