$$\begin{cases} y = \frac{t^2}{t-1} \\ x = \frac{t}{t^2-1} \end{cases}$$

$$y'_x = \frac{y'_t}{x'_t}$$

$$x'_t = -\frac{1}{t^2}$$

$$y'_t = \frac{1}{-\frac{1}{t^2}} = -t^2$$

3) $y = (x^2+2)^5 \cdot (3x-x^3)^3$

$$-(2+x^2)^4 (3x-x^3)^2 (-18-21x^2+9x^4)$$

4) $y = x^x$

$$x^x(\log(x)+1)$$

$$y'(x) = x^x(1+\log(x))$$

(4) $P = 144$

$S - ?$

$a - ?$

$b - ?$

$P = 2(a+b)$

$2(a+b) = 144$

$a+b = 72$

$a = 72 - b$

$S = ab = \cancel{a}(72-b)\cdot b$

$S(x) = 72b - b^2$

$S'(x) = 72 - 2b$

$S'(x) = 0$

$72 - 2b = 0$

$b = 36$ (получили квадрат)

$S = 36 \cdot 36 = 1296$