23 Найти производную:

$$\left(\sin^3(x^2+2x+1)\right)' = 3\sin^2(x^2+2x+1)\left(\sin(x^2+2x+1)\right)' =$$

$$= 3\sin^2(x^2+2x+1)\cos(x^2+2x+1)(x^2+2x+1)' =$$

$$= 3\sin^2(x^2+2x+1)\cos(x^2+2x+1)\left((x^2)'+(2x)'+(1)'\right) =$$

$$= 3\sin^2(x^2+2x+1)\cos(x^2+2x+1)(2x+2+0) =$$

$$= 3\sin^2(x^2+2x+1)\cos(x^2+2x+1)(2x+2) =$$

$$= 3\cdot 2(x+1)\sin^2(x^2+2x+1)\cos(x^2+2x+1) =$$

$$= 6(x+1)\sin^2(x^2+2x+1)\cos(x^2+2x+1)$$

$$\left(\sin^3(x^2+2x+1)\right)' = \left(\sin^3(x+1)^2\right)' =$$

$$= 3\sin^2(x+1)^2\left(\sin(x+1)^2\right)' =$$

$$= 3\sin^2(x+1)^2\cos(x+1)^2\left((x+1)^2\right)' =$$

$$= 3\sin^2(x+1)^2\cos(x+1)^2\,2(x+1)(x+1)' =$$

$$= 3\sin^2(x+1)^2\cos(x+1)^2\,2(x+1)\left((x)'+(1)'\right) =$$

$$= 3\sin^2(x+1)^2\cos(x+1)^2\,2(x+1)(1+0) =$$

$$= 3\sin^2(x+1)^2\cos(x+1)^2\,2(x+1) =$$

$$= 3\cdot 2(x+1)\sin^2(x+1)^2\cos(x+1)^2 =$$

$$= 6(x+1)\sin^2(x+1)^2\cos(x+1)^2$$

Ответ:

$$\boxed{\left(\sin^3(x^2+2x+1)\right)' = 6(x+1)\sin^2(x+1)^2\cos(x+1)^2}$$