$$\begin{cases} 1 = a \cdot 1 + b \\ a = \frac{1}{2} \end{cases}$$

$1 = \frac{1}{2} \cdot 1 + b$

$b = \frac{1}{2}$

Ответ: уравнение касательной к графику $y = \frac{1}{2}x + \frac{1}{2}$

Задача № 7

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

$(\sin(x^2))' \cdot (-\sin(\sin(x^2))) = (x^2)' \cdot \cos(x^2) \cdot (-\sin(\sin(x^2))) =$

$= \cancel{(x^2)'} = -2 \cdot x \cdot \cos x^2 \cdot \sin(\sin x^2)$

2) $(\cos(\sin^2 x))' = (\sin^2 x)' \cdot - \sin(\sin^2 x) =$

$= -\cos x \cdot 2\sin x \cdot \sin(\sin^2 x) =$

$= -2\cos x \cdot \sin x \cdot \sin(\sin^2 x)$

3) $\left((\cos(x))^{\sin(x)}\right)' = \left(\left(e^{\ln\cos x}\right)^{\sin x}\right)' = \left(e^{\ln\cos x \cdot \sin x}\right)' =$

$(\ln\cos(x) \cdot \sin(x))' \cdot (e(x))' (\ln\cos(x) \cdot \sin(x)) =$

$= (\ln\cos(x) \cdot \sin(x))' \cdot e^{\ln\cos(x) \cdot \sin(x)}$

$=$