Zadatak 12. Kako glasi jednadžba pravca koji prolazi točkom $T(2,1)$ i s pravcem $2x+3y+4=0$ zatvara kut od $45°$?

Rješenje.

$T(2,1)$

$p \ \ldots \ 2x+3y+4=0 \implies y=-\frac{2}{3}x-\frac{4}{3}$

$r \ \ldots \ y=kx+l$

$\varphi = 45° \implies \operatorname{tg}\varphi = 1$

$\operatorname{tg}\varphi = 1$

$$\left|\frac{k+\frac{2}{3}}{1-\frac{2}{3}k}\right| = 1$$

$$\left|\frac{\frac{3k+2}{3}}{\frac{3-2k}{3}}\right| = 1$$

$$\left|\frac{3k+2}{3-2k}\right| = 1 \quad / \cdot |3-2k|$$

$$|3k+2| = |3-2k|$$

$3k+2<0 \implies k<-\frac{2}{3}$

$3-2k<0 \implies k>\frac{3}{2}$

	$\langle -\infty, -\frac{2}{3}\rangle$	$\langle -\frac{2}{3}, \frac{3}{2}\rangle$	$\langle \frac{3}{2}, \infty\rangle$
$3k+2$	$-$	$+$	$+$
$3-2k$	$+$	$+$	$-$

$\langle -\infty, -\frac{2}{3}\rangle \cup \langle \frac{3}{2}, \infty\rangle$

$3-2k=-3k-2$

$k=-5$

$y-1=-5(x-2)$

$y-1=-5x+10$

$5x-y-11=0$

$\langle -\frac{2}{3}, \frac{3}{2}\rangle$

$3-2k=3k+2$

$k=\frac{1}{5}$

$y-1=\frac{1}{5}x-\frac{2}{5} \quad / \cdot 5$

$5y-5=x-2$

$x-5y+3=0$