Zadatak 20. Odredi simetralu onog kuta što ga određuju pravci $x + 2y - 1 = 0$ i $2x - y - 7 = 0$, kojem pripada ishodište koordinatnog sustava.

Rješenje.

$$p \;\ldots\; x + 2y - 1 = 0 \implies y = -\frac{1}{2}x + \frac{1}{2}$$
$$q \;\ldots\; 2x - y - 7 = 0 \implies y = 2x - 7$$

$$p \perp q \text{ jer } k_p = -\frac{1}{k_q}$$

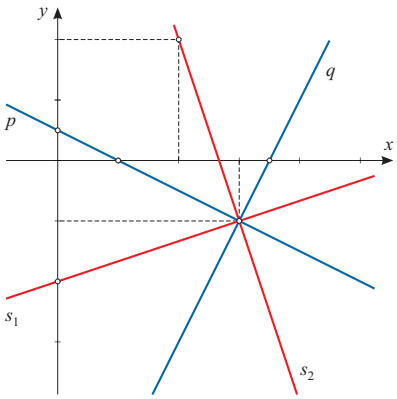
Za tocku $T(x, y)$ na simetrali kuta vrijedi:

$$\frac{|x + 2y - 1|}{\sqrt{1+4}} = \frac{|2x - y - 7|}{\sqrt{4+1}} \quad / \cdot \sqrt{5}$$
$$|x + 2y - 1| = |2x - y - 7|$$

1) $x + 2y - 1 = 2x - y - 7$
$x - 3y - 6 = 0 \;\ldots\; s_1$

2) $x + 2y - 1 = -2x + y + 7$
$3x + y - 8 = 0 \;\ldots\; s_2$

$p \;\ldots\; (0, 1),\ (\frac{1}{2}, 0)$
$q \;\ldots\; (-1, 3),\ (\frac{7}{2}, 0)$
$s_1 \;\ldots\; (0, -2)$
$s_2 \;\ldots\; (2, 2)$



Iz slike se vidi da je rješenje $s_1 \;\ldots\; x - 3y - 6 = 0$.