Zadatak 7. Odredi točke u kojima pravac $2x-y-10=0$ siječe hiperbolu $x^2-4y^2=20$.

Rješenje.

$$
\begin{aligned}
p \quad &\ldots\ 2x-y-10=0 \implies y=2x-10\\
H \quad &\ldots\ x^2-4y^2=20\\
p\cap H \quad &\ldots\ x^2-4(2x-10)^2=20\\
&\quad x^2-4(4x^2-40x+100)^2=20\\
&\quad x^2-16x^2+160x-400=20\\
&\quad -15x^2+160x-420=0 \quad /:(-5)\\
&\quad 3x^2-32x+84=0\\
&\quad x_{1,2}=\frac{32\pm\sqrt{1024-1008}}{6}=\frac{32\pm 16}{6}=\frac{32\pm 4}{6}\\
&\quad x_1=\frac{14}{3},\quad y_1=2\cdot\frac{14}{3}-10=-\frac{2}{3} \implies T_1\left(\frac{14}{3},-\frac{2}{3}\right)\\
&\quad x_2=6,\quad y_1=2\cdot 6-10=2 \quad T_2(6,2)
\end{aligned}
$$