

$$\frac{x^2 + 1}{2x^2 - 4} < 0$$

$N > 0 \quad x^2 + 1 > 0, x^2 > -1 \quad \forall x \in \mathbb{R}$
 $D > 0 \quad 2x^2 - 4 > 0, 2x^2 > 4, x^2 > 2$
 $x < -\sqrt{2} \vee x > \sqrt{2}$

$N > 0$
 $D > 0$

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$$\begin{cases} x^2 + 3x - 4 > 0 \\ 2x + 1 < 0 \end{cases}$$

$x < -\frac{1}{2}$
 $\Delta = 9 + 16 = 25$
 $x = \frac{-3 \pm 5}{2} = \begin{matrix} 1 \\ -4 \end{matrix}$
 $x < -4 \vee x > 1$

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$r: 3x + y - 4 = 0 \quad m_r = -\frac{a}{b} = -3$
 $s: 2x + y - 1 = 0 \quad m_s = -2$

$$\begin{cases} y = -3x + 4 \\ y = -2x + 1 \end{cases} \Rightarrow -3x + 4 = -2x + 1$$

$$\Rightarrow -x = -3 \Rightarrow x = 3$$

$$\begin{cases} x = 3 \\ y = -5 \end{cases} \quad P(3, -5)$$

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$r: 2x - 3y + 1 = 0$

$$\begin{cases} 2x - 3y + 1 = 0 \\ y = 0 \end{cases} \Rightarrow \begin{cases} 2x - 3y + 1 = 0 \\ x = 0 \end{cases}$$

$$\begin{cases} y = 0 \\ x = -\frac{1}{2} \end{cases} \Rightarrow \begin{cases} x = 0 \\ y = \frac{1}{3} \end{cases}$$

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