Linear Algebra and Geometry 1

Systems of equations, matrices, vectors, and geometry

Normal equations of planes in the 3-space

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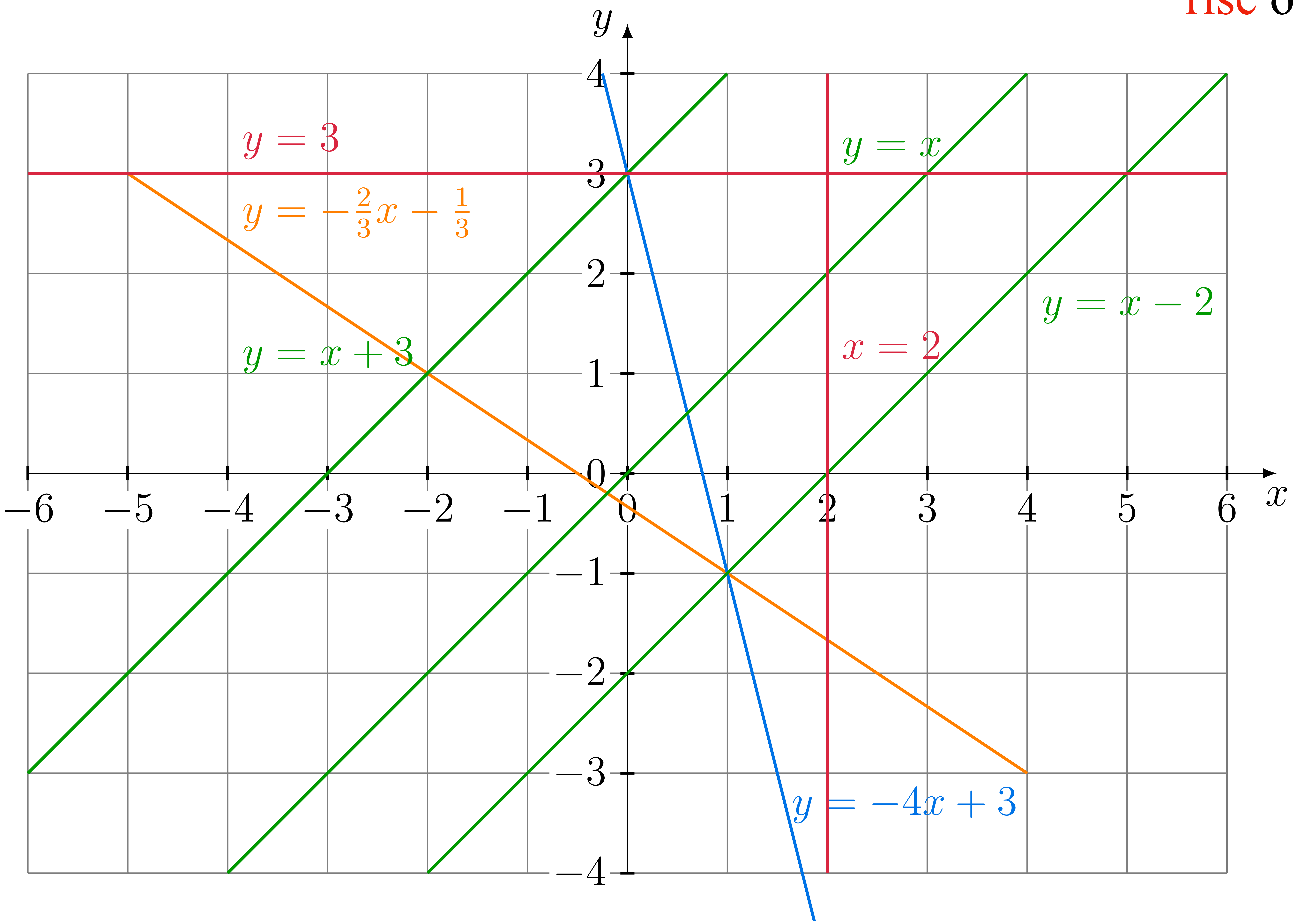
Man in The Middle AB

Straight lines in $\mathbb{R}^2$

(m, b)-equation: $y = mx + b$ where $m = \frac{\Delta y}{\Delta x}$ is the slope

rise over run



All straight lines in the plane can be described by $ax + by + c = 0$

Such equations are called normal equations

$ax + by + c = 0$

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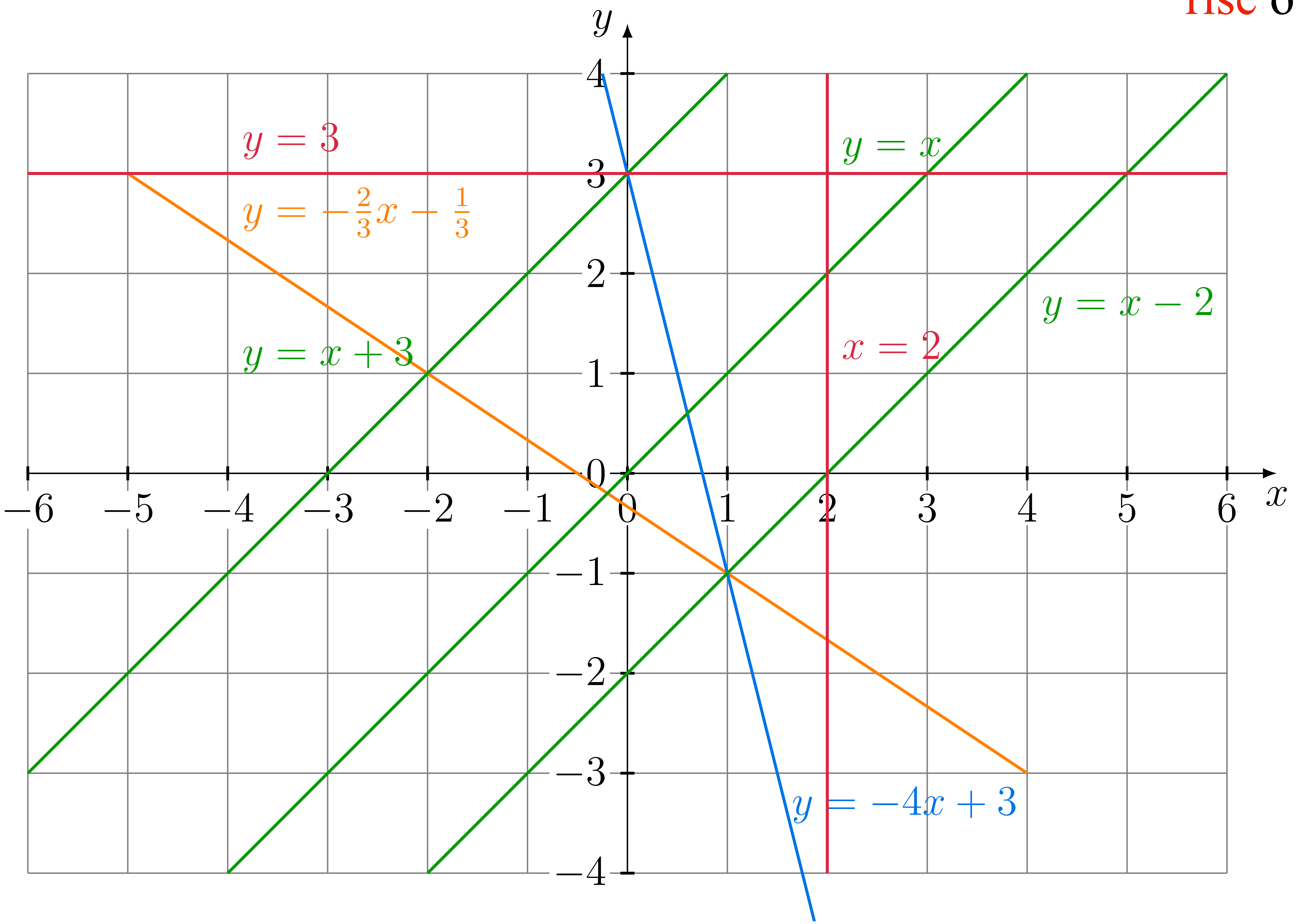

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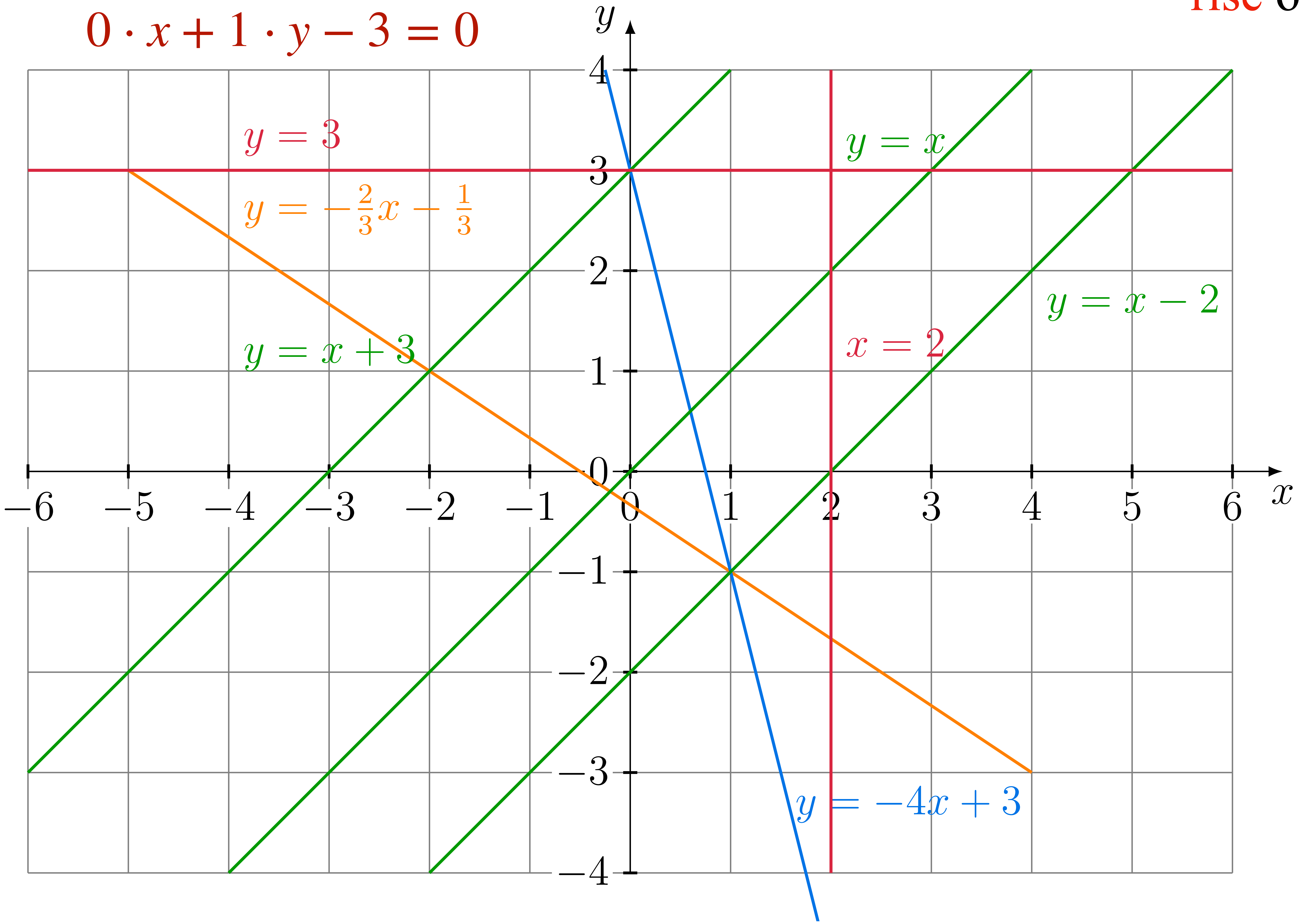
$0 \cdot x + 1 \cdot y - 3 = 0$



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Straight lines in $\mathbb{R}^2$

(m, b)-equation: $y = mx + b$ where $m = \frac{\Delta y}{\Delta x}$ is the slope

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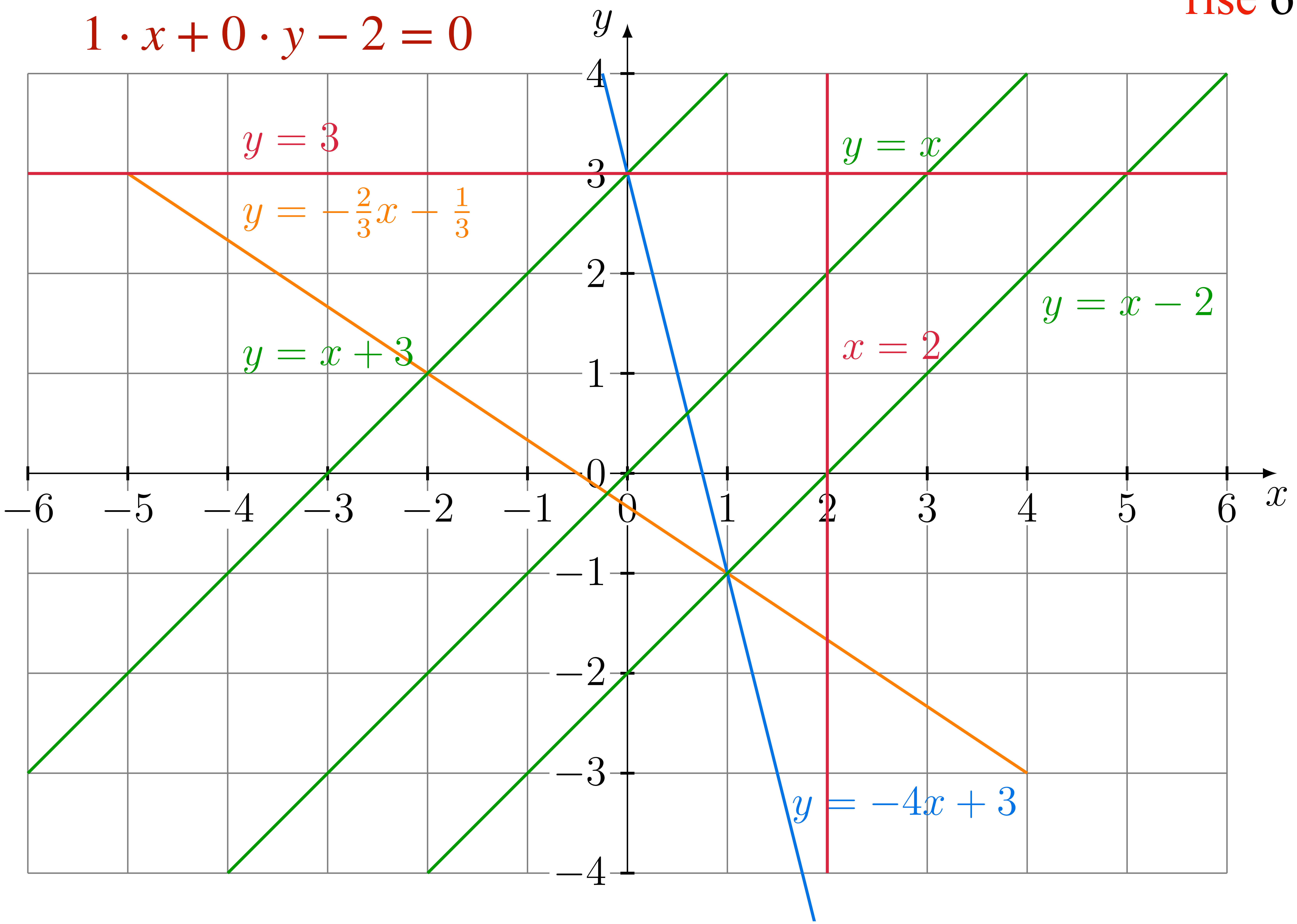
$1 \cdot x + 0 \cdot y - 2 = 0$



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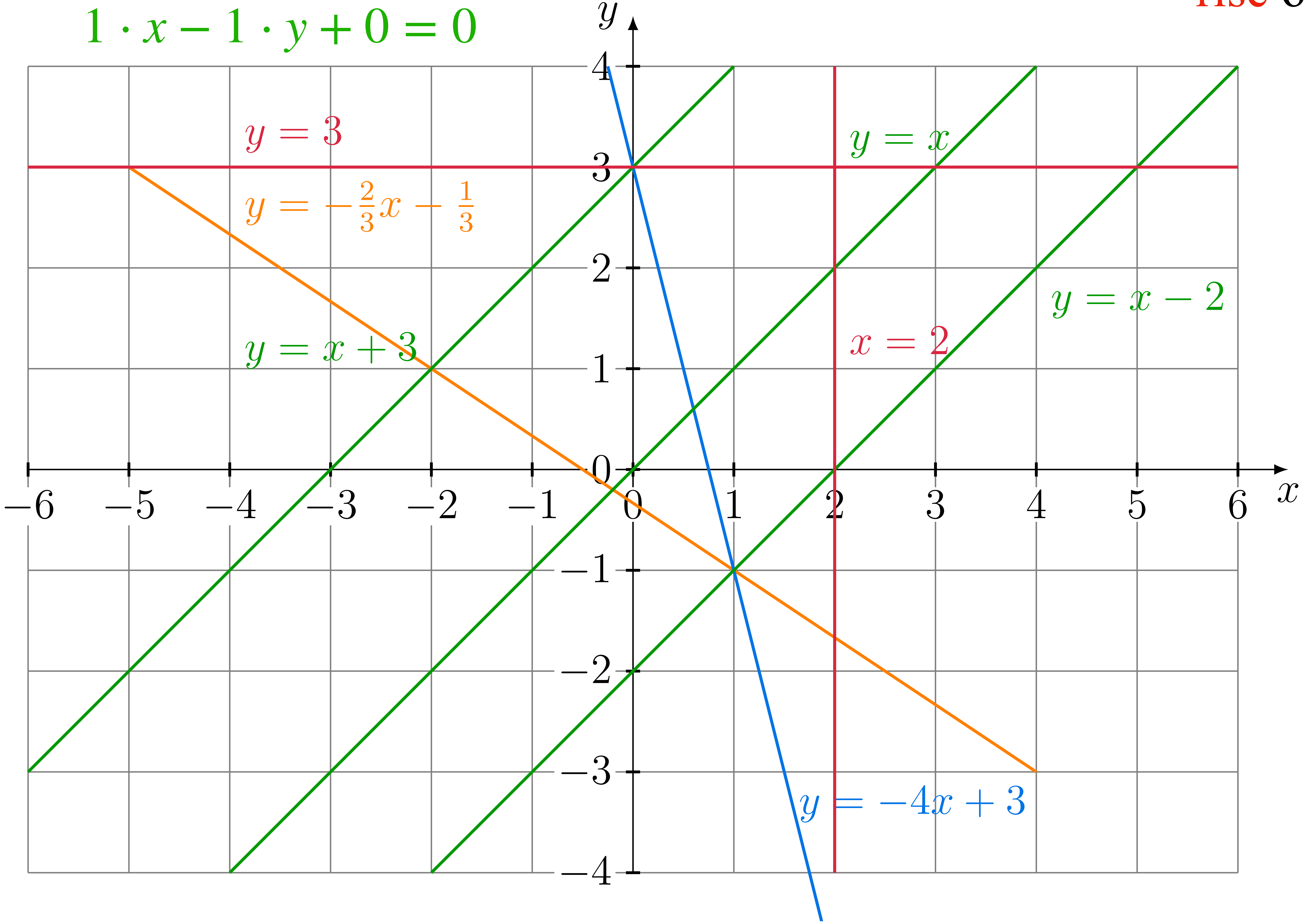
$1 \cdot x - 1 \cdot y + 0 = 0$



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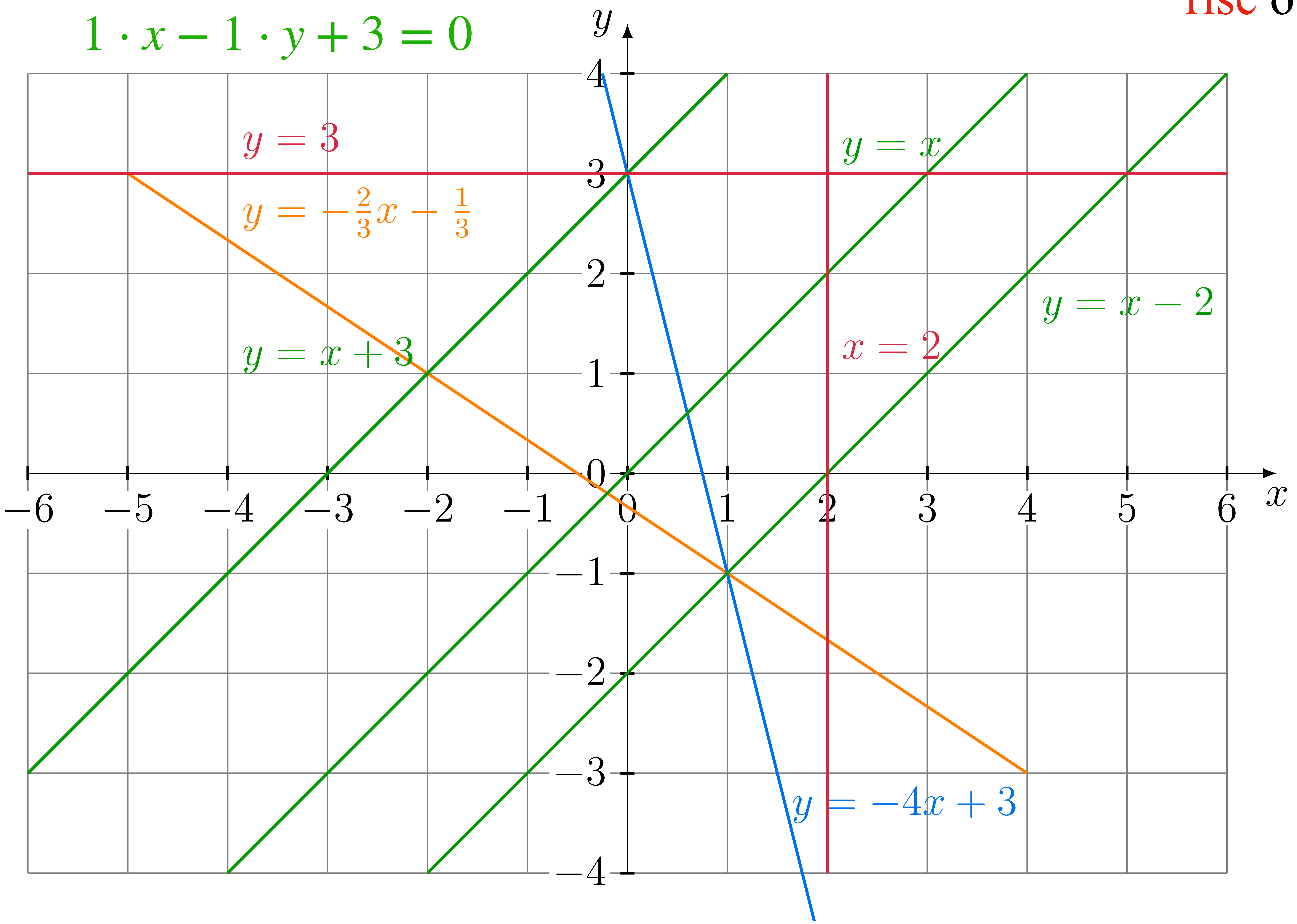

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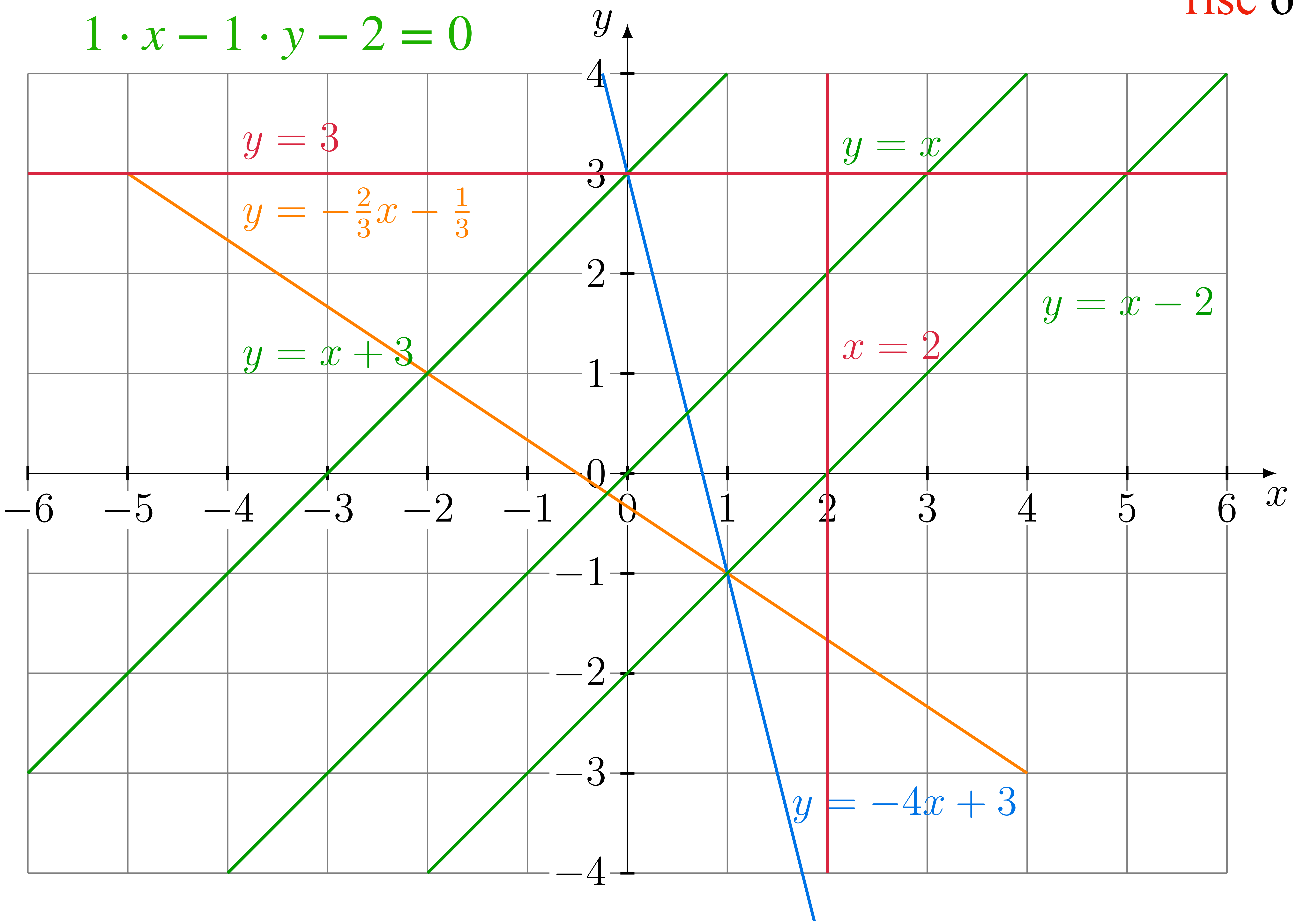

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Straight lines in $\mathbb{R}^2$

(m, b)-equation: $y = mx + b$ where $m = \frac{\Delta y}{\Delta x}$ is the slope

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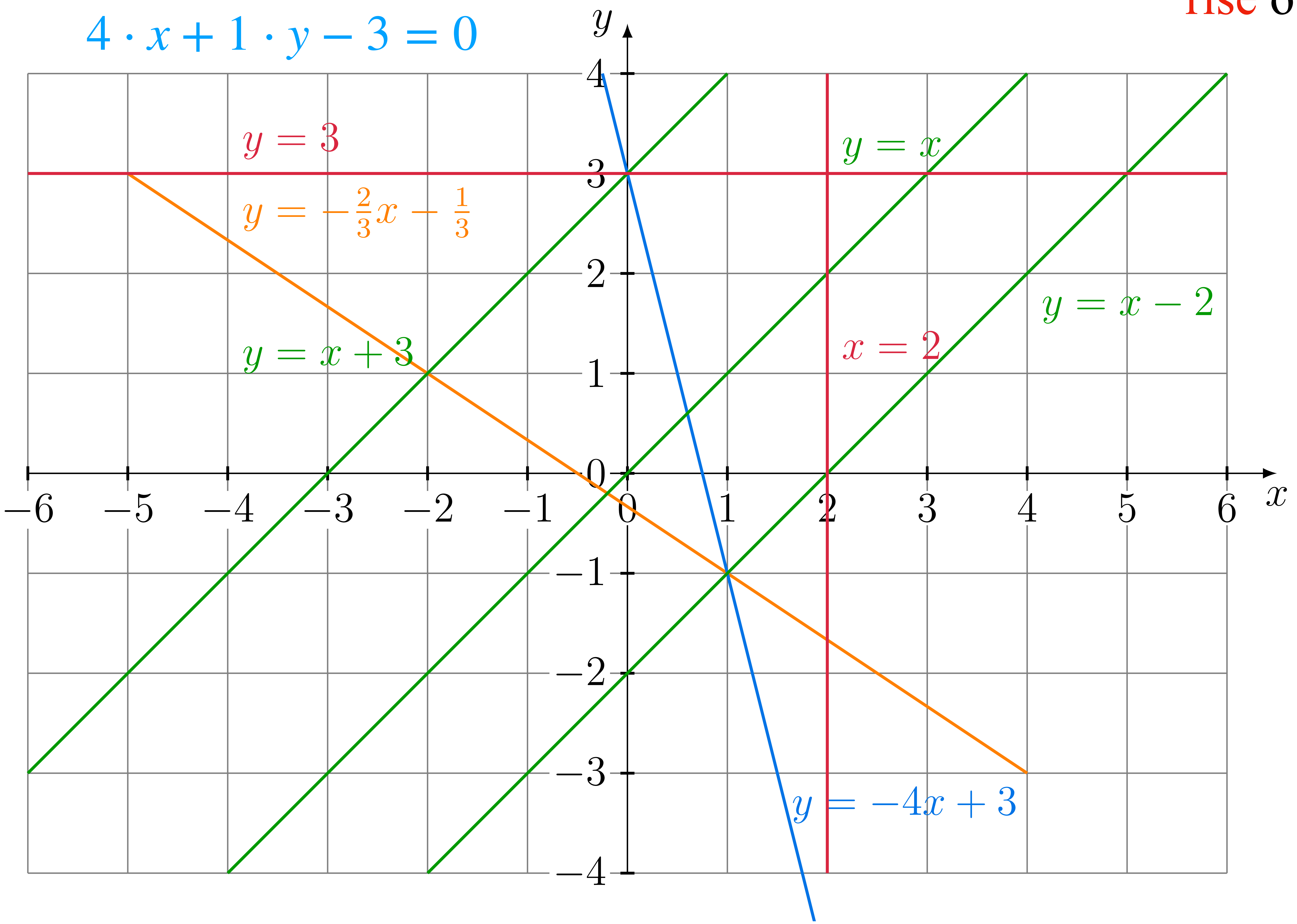
$4 \cdot x + 1 \cdot y - 3 = 0$



$ax + by + c = 0$

Straight lines in $\mathbb{R}^2$

(m, b)-equation: $y = mx + b$ where $m = \frac{\Delta y}{\Delta x}$ is the slope

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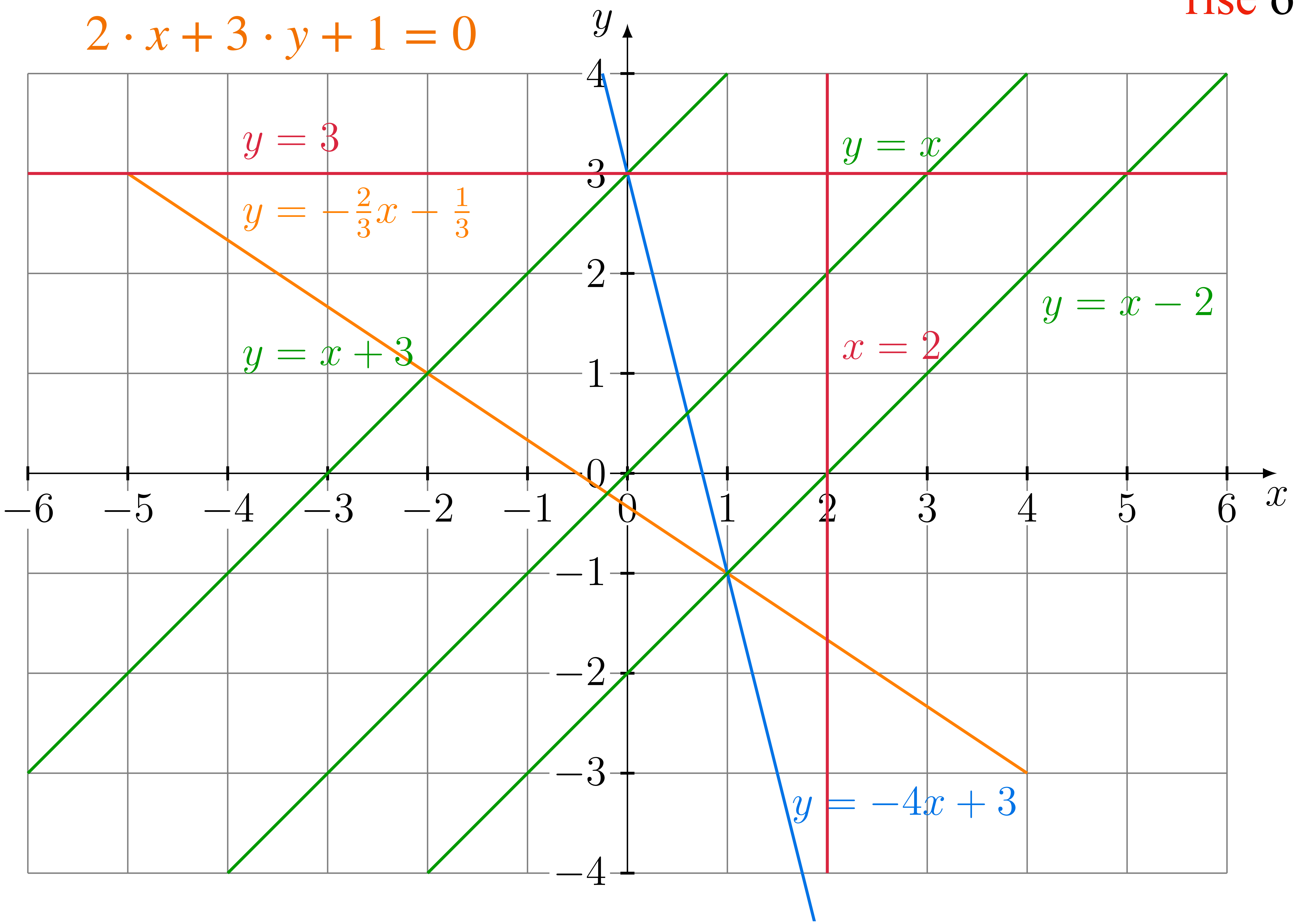
$2 \cdot x + 3 \cdot y + 1 = 0$



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