1. $2a-3b=-1$ $\quad -2a \quad -2a$

$$\frac{-3b}{-3}=\frac{-2a}{-3}-\frac{1}{-3}$$

$$b=\frac{2}{3}a+\frac{1}{3}$$

$5a-7.5b=-2.5$ $\quad -5a \quad -5a$

$$\frac{-7.5b}{-7.5}=\frac{-5a}{-7.5}-\frac{2.5}{-7.5}$$

$$b=\frac{2}{3}a+\frac{1}{3}$$

Solve for y = "b"

Same line → infinitely many $\frac{5}{7.5}\times\frac{10}{10}=\frac{50}{75}=\frac{2}{3}$

Consistent + dependent

4. $y=-3x-8$

$y=-3x+8$

parallel lines (no solution)

inconsistent

5. $1(3x + 8y = 14) \rightarrow 3x + 8y = 14$

$-2\left(\frac{3}{2}x + 4y = 7\right) \rightarrow -3x - 8y = -14$

$0x + 0y = 0$

$-\frac{2}{1} \cdot \frac{3}{2}$

infinitely many solutions

$0 = 0$ True

6. $3x + 7y = 5$ $\qquad 3x + 7y$

$3y = -2x \rightarrow 3 \cdot 2 = -2x$ *

$+2x \quad +2x$ $\qquad \frac{6}{-2} = \frac{-2x}{-2}$

$-3 = x$

$3(2x + 3y = 0) \rightarrow 6x + 9y = 0$

$-2(3x + 7y = 5) \rightarrow -6x - 14y = -10$

$0x - 5y = -10$

$\frac{-5y}{-5} = \frac{-10}{-5}$

$y = 2$

$(-3, 2)$

consistent & independent