1-29

13. $y + 4 = -5x$

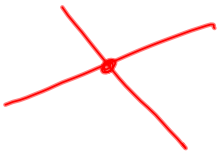
$y = 6x - 7$

$y + 4 = -5x$

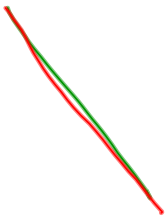
$-4 \quad -4$

$y = -5x - 4$

consistent & independent → different slope
one solution



consistent & dependent → same slope + same y-ints



same line
infinitely many solutions

inconsistent → same slope, different y-ints

parallel lines
no solution

14. $3x - 2y = -5$

$-3x \qquad -3x$

$-2y = -3x - 5$

$\frac{-2y}{-2} = \frac{-3x}{-2} - \frac{5}{-2}$

$\boxed{y = \frac{3}{2}x + \frac{5}{2}}$

$\frac{4y}{4} = \frac{6x}{4} + \frac{10}{4}$

$y = \frac{3}{2}x + \frac{5}{2}$

same

consistent & dependent

15. $6x - 2y = -10$

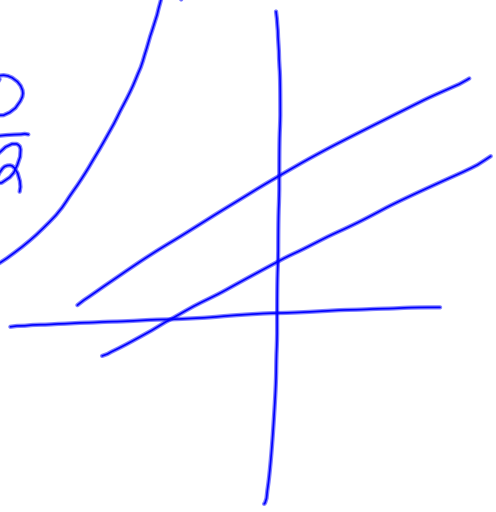
$-6x \qquad -6x$

$-2y = -6x - 10$

$\frac{-2y}{-2} = \frac{-6x}{-2} - \frac{10}{-2}$

$y = \boxed{3x} \textcircled{+5}$

$y = \boxed{3x} \textcircled{+2}$



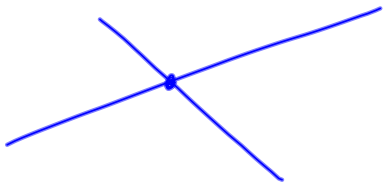
inconsistent

16. $y + 6x = 18$

$-6x \quad -6x$

$y = -6x + 18$

$y = -7x + 2$



consistent & independent

20. $3x = y + 2$

$-2 \quad -2$

$3x - 2 = y$

$y = 3x - 2$

$\frac{3y}{3} = \frac{x}{3} + \frac{2}{3}$

$y = \frac{1}{3}y + \frac{2}{3}$

independent (consistent)

Homework questions

8. $x - y = 2$

$+y \quad +y$

$x = y + 2$

$-x + y = -2$

$-(y+2) + y = -2$

$-y - 2 + y = -2$

$-2 = -2$

True

infinitely many solutions

$1x - 1y = 2$

$-1x + 1y = -2$

$0x + 0y = 0$

$0 = 0$

9. $4x + y = 10$

$y = -4x + 5$

$4x + (-4x + 5) = 10$

$4x - 4x + 5 = 10$

$0x$

$5 = 10$

False

no solution

10. $-1(2x + y = 3)$

$4x + y = 6$

$-2x - y = -3$

$\frac{2x}{2} = \frac{3}{2}$

$x = \frac{3}{2}$

$4x = 6 - y$

$+y \quad +y$

$4x + y = 6$

$4(\frac{3}{2}) + y = 6$

$6 + y = 6$

$-6 \quad -6$

$y = 0$

$(\frac{3}{2}, 0)$

Worksheet 7.4

(4, 5, 21-24)