17,

17. $(3x+3y=6)2$
$5x-6y=15$
$+6x+6y=12$
$11x=27$
$\frac{11}{11}$
$x=27/11$

$3(\frac{27}{11})+3y=6$
$(\frac{81}{11}+3y=6)11$
$81+33y=66$
$-81 \quad -81$
$33y=-15$
$\frac{33}{33}$
$y=\frac{-15}{33}=\frac{-5}{11}$

$\boxed{(\frac{27}{11}, -\frac{5}{11})}$

18. $(3x-2y=6)3$
$(5x+3y=-9)2$

$9x-6y=18$
$+\ 10x+6y=-18$
$19x=0$
$\frac{19}{19}$
$x=0$ $\boxed{(0,-3)}$

$5(0)+3y=-9$
$\frac{3y=-9}{3}$
$y=-3$

21. $2p-5q=14$
$(p+\frac{3}{2}q=5)2$

$2p+3q=10$
$+\ -2p+5q=14$
$8q=-4$
$\frac{8}{8}$
$q=-1/2$

$2p+3(\frac{1}{2})=10$
$2p-1.5=10$
$+1.5$
$\frac{2p=11.5}{2}$
$p=5.75=23/4=5\frac{3}{4}$

$\boxed{(\frac{23}{4}, -\frac{1}{2})}$

22. $d = 2 - 6c$ (+6c, +6c)

$\left(\frac{1}{2}d - c = 1\right)2$

$d + 6c = 2$

$+\ -d + 2c = -2$

$8c = 0$

8

$c = 0$ $d = 2 - 6 \cdot 0$

$d = 2$

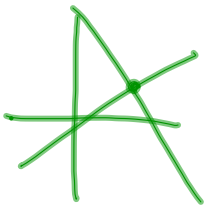
$(0, 2)$

HW Assessment

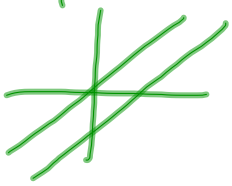
18. $3x - 2y = 6$
$5x + 3y + 9 = 0$

No Solution / All Real

A solution to a system of equations is where the two lines meet aka their point of intersection.

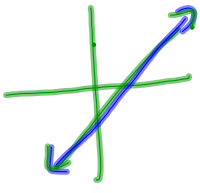


No Solution: the lines never intersect, they are parallel!



All Real #'s: Not actually ARN, but there is an infinite # of solutions.

THEY ARE THE SAME LINE!!



- our answer is the equation of this line. $y = mx + b$

$3x - 2y = x + 8$ substitution

$y = x - 4$

$3x - 2(x - 4) = x + 8$

$3x - 2x + 8 = x + 8$

$x + 8 = x + 8$

$-x \quad -x$

$8 = 8$ ← true statement but not ARN the same line

$y = x - 4$

$(-3x + 5y = -6)6$
$(6x - 10y = 12)3$

Linear combination

$$\begin{array}{r} -18x + 30y = -36 \\ +\ 18x - 30y = 36 \\ \hline 0 = 0 \end{array}$$

true statement
same line

$$6x - 10y = 12$$
$$-6x \qquad -6x$$

$$\frac{-10y}{-10} = \frac{12}{-10} - \frac{6x}{-10}$$

$$\boxed{y = -\frac{6}{5} + \frac{3}{5}x}$$

$2(y-x)=5+2x$

$2(y+x)=5-2y$

Simplify first!

$-2x \quad -2x$

$2y-2x=5+2x$

$2y+2x=5-2y$

$+2y \quad +2y$

$2y-4x=5$

$(4y+2x=5)2$

$$\begin{array}{r} 2y-4x=5 \\ +\ 8y+4x=10 \\ \hline 10y=15 \end{array}$$

$\frac{10y}{10}=\frac{15}{10}$

$y=3/2$

$2\left(\frac{3}{2}\right)-4x=5$

$3-4x=5$

$-3 \quad -3$

$-4x=2$

$\frac{-4x}{-4}=\frac{2}{-4}$

$x=-1/2$

$\boxed{(-1/2,\ 3/2)}$