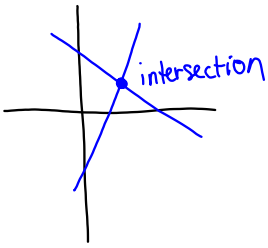
Bellwork 9-9-15

Give one way we can tell if a given (x,y) point is a solution to a system of linear equations. Use complete sentences.



Sep 2-12:28 PM

$x + 3y = -21$, $-x \quad -x$

$\frac{3y}{3} = \frac{-1x}{3} - \frac{21}{3}$

$y = -\frac{1}{3}x - 7$

$2x + y = 3$, $-2x \quad -2x$

$y = -2x + 3$

$(6, -9)$

Sep 9-9:38 AM

9-9-15

3.2a Solve Systems of Linear Equations by Substitution

Jul 4-10:31 PM

PRACTICE

Solve for x

$6x - 3y = 12$

Solve for y

$6x - 3y = 12$

Sep 2-12:36 PM

Solve the system of equations using substitution.

$\begin{cases} y = x+2 \\ x+y = 8 \end{cases}$

$x + x + 2 = 8$

$2x + 2 = 8$

$-2 \quad -2$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$

$y = 3 + 2$

$y = 5$

$(3, 5)$

Sep 11-4:23 PM

Solve the system of equations using substitution.

$\begin{cases} x = 2y+4 \\ 3x - 6y = 12 \end{cases}$

$3(2y+4) - 6y = 12$

$6y + 12 - 6y = 12$

$12 = 12$

Infinite Sol.

Sep 11-4:23 PM

Solve the system of equations using substitution.

$\begin{cases} x = 2y+4 \\ 3x - 6y = 12 \end{cases}$

When solving a system of equations, if you end up with a true statement (such as 1=1), you will have infinitely many solutions.

Sep 11-4:23 PM

Solve the system of equations using substitution.

$\begin{cases} y = x-1 \\ x = -y+7 \end{cases}$

$y = -y + 7 - 1$

$y = -y + 6$

$+y \quad +y$

$\frac{2y}{2} = \frac{6}{2}$

$y = 3$

$3 = x - 1$

$+1 \quad +1$

$4 = x$

$(4, 3)$

Sep 11-4:23 PM

Solve the system of equations using substitution.

$\begin{cases} 3x+y=1 \\ 2y+6x=-18 \end{cases}$

$3x+y=1$
$-3x \quad -3x$
$y=-3x+1$

$2(-3x+1)+6x=-18$
$-6x+2+6x=-18$
$2=-18$
No Solution

Jul 5-3:59 AM

Solve the system of equations using substitution.

$\begin{cases} 3x+y=1 \\ 2y+6x=-18 \end{cases}$

When solving a system of equations, if you end up with a false statement (such as 0=1), you will have no solution.

Jul 5-3:59 AM

Solve the system of equations using substitution.

$\begin{cases} 2y+x=4 \\ 3x-4y=7 \end{cases}$

$2y+x=4$
$-2y \quad -2y$
$x=-2y+4$

$3(-2y+4)-4y=7$
$-6y+12-4y=7$
$-10y+12=7$
$-12 \quad -12$
$\frac{-10y}{-10}=\frac{-5}{-10}$
$y=\frac{1}{2}$
$2(\frac{1}{2})+x=4$
$1+x=4$
$-1 \quad -1$
$x=3$

$(3, \frac{1}{2})$

Sep 11-4:23 PM

Solve the system of equations using substitution.

$\begin{cases} x=2y+4 \\ 3x-6y=12 \end{cases}$

Sep 11-4:23 PM

Solve the system of equations using substitution.

$$\begin{cases} x = 2y + 4 \\ 3x - 6y = 12 \end{cases}$$

When solving a system of equations, if you end up with a true statement (such as 1=1), you will have infinitely many solutions.

Sep 11-4:23 PM

Conclusion

1. What is the solution to a system of equations?

Point (x, y)

2. What is your solution if you get something like 2 = 2?

infinite solutions

3. What is your solution if you get something like -1 = 7?

No solution

4. Questions???

Sep 2-1:11 PM

Assignment

Solving Systems by Substitution Worksheet

Sep 2-1:12 PM

pg. 194: 6-9, 19-22, 28, 29

Even though the directions say solve using elimination, you may solve by graphing or substitution if you would like to.

Use elimination to solve each system of equations.

6. $\begin{cases} 2x + y = 12 \\ -5x - y = -33 \end{cases}$ 7. $\begin{cases} 2x - 5y = -5 \\ -2x + 8y = -58 \end{cases}$ 8. $\begin{cases} 2x + 6y = -8 \\ 5x - 3y = 88 \end{cases}$ 9. $\begin{cases} \frac{1}{2}x + y = 4 \\ -2x - 2v = -6 \end{cases}$

Use elimination to solve each system of equations.

19. $\begin{cases} 4x - 9y = 26 \\ 4x - 5y = 2 \end{cases}$ 20. $\begin{cases} 6x - 3y = -6 \\ -5x + 7y = 41 \end{cases}$ 21. $\begin{cases} 12x - 3y = -15 \\ 8x + 8y = -58 \end{cases}$ 22. $\begin{cases} 3x + y = 7 \\ -3x + 2y = 11 \end{cases}$

28. $\begin{cases} y + 3x = -21 \\ x = 3y + 3 \end{cases}$ 29. $\begin{cases} y = -2x + 14 \\ 1.5x - 3.5y = 2 \end{cases}$

Sep 8-11:29 AM