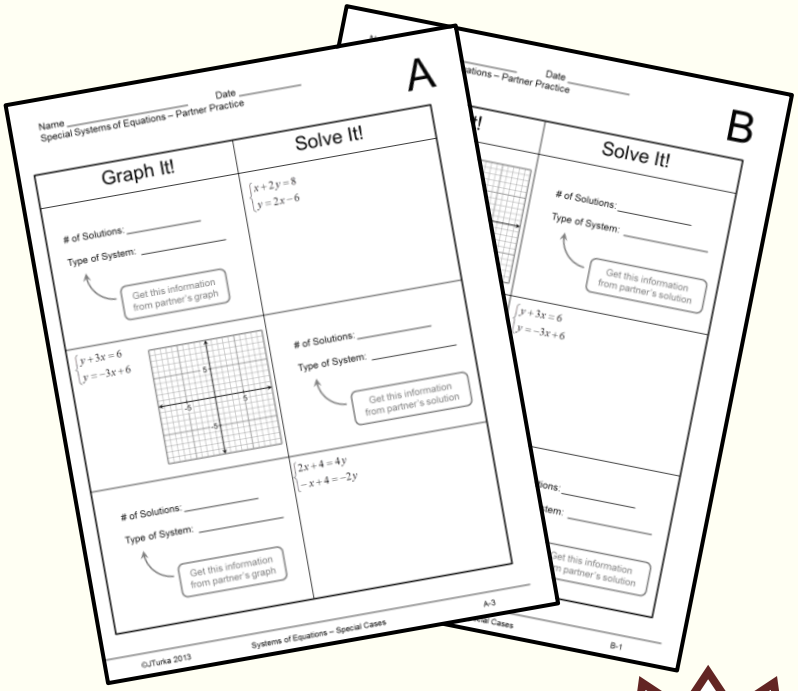
Algebra

Systems of Equations – Special Cases
(Partner Practice Sheet)

~by Jason Turka

One students graphs the system of equations and the other solves it. Answers are compared and roles reversed for the next problem



- ✓ **Solve and graph systems**
- ✓ **Independent, dependent, and inconsistent systems**

Common core aligned

See more resources

Systems of Equations – Special Cases (Partner Practice Sheet)

Common Core Standard: HSA-REI.C.6

About this Product:

These worksheets have been written as guided/independent practice on special systems of equations (differentiating between independent, dependent, and inconsistent systems.)

This topic is one that is taught best when students are able to analyze solutions and graphs… and not their similarities and differences. This worksheet encourages students to complete problems efficiently and compare answers. The lesson fosters cooperation and peer tutoring because each partner benefits when their partner understands the material.

Image Credit: www.clker.com - OCAL

Timeframe:

This activity is a good one for day #2 of instruction on this topic. On day #1, I use the Systems of Equations Foldable (For Special Cases) as the class notes, then assign homework. On day #2, we review the homework problems then do this activity. It takes between 15-30 minutes for students to complete this sheet and compare with their partner.

During the Activity:

Have students pair up and pass out the sheets. One partner works on worksheet A and the other does worksheet B.

Connect with me:

Visit my free math website: www.freemathresource.com

Visit my TpT store: http://www.teacherspayteachers.com/Store/Jason-Turka

See this product online: http://www.teacherspayteachers.com/Product/Systems-of-Equations-Special-Cases-Partner-Practice-Sheets

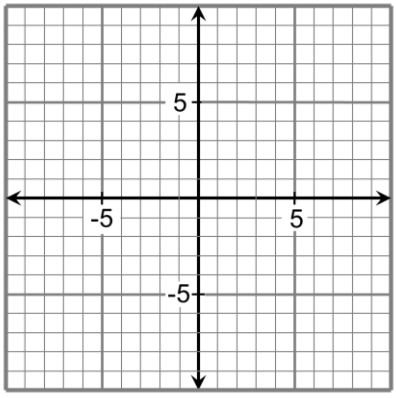
Thank you for sharing this worksheet with your students. I am very interested in hearing about your experience. Feel free to leave me feedback on the site or email me at algebrasuccess@gmail.com.

Thanks,
Jason

Name _____ Date _____

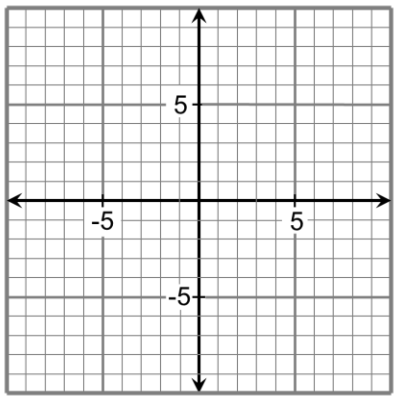
Special Systems of Equations – Partner Practice

A

Graph It!	Solve It!
# of Solutions: _____ Type of System: _____ Get this information from partner's graph	$\begin{cases} x+2y=8 \\ y=2x-6 \end{cases}$
$\begin{cases} y+3x=6 \\ y=-3x+6 \end{cases}$  	# of Solutions: _____ Type of System: _____ Get this information from partner's solution
# of Solutions: _____ Type of System: _____ Get this information from partner's graph	$\begin{cases} 2x+4=4y \\ -x+4=-2y \end{cases}$

Graph It!

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



# of Solutions: _____

Type of System: _____

Get this information from partner's solution

Solve It!

of Solutions: _____

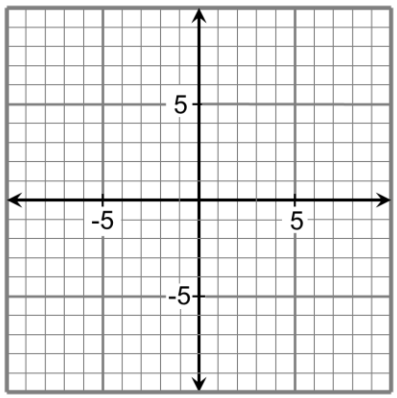
Type of System: _____

Get this information from partner's graph

$\begin{cases} -18x+12y=24 \\ 3x-2y=-4 \end{cases}$

Graph It!

$\begin{cases} y=3x+1 \\ y=3x-4 \end{cases}$



Solve It!

of Solutions: _____

Type of System: _____

Get this information from partner's solution

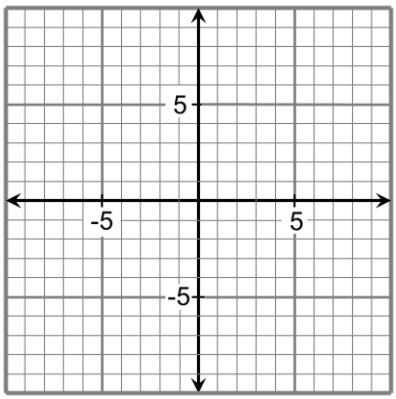
Name _____ Date _____

Special Systems of Equations – Partner Practice

B

Graph It!

$$\begin{cases} x + 2y = 8 \\ y = 2x - 6 \end{cases}$$



Solve It!

of Solutions: _____

Type of System: _____

Get this information from partner's solution

# of Solutions: _____

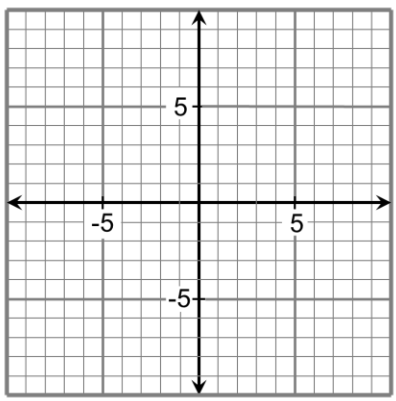
Type of System: _____

Get this information from partner's graph

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

Graph It!

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

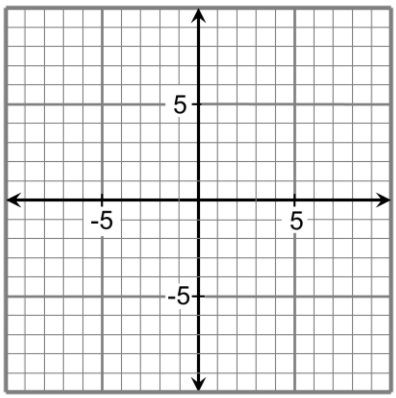


Solve It!

of Solutions: _____

Type of System: _____

Get this information from partner's solution

Graph It!	Solve It!
# of Solutions: _____ Type of System: _____ Get this information from partner's graph	$\begin{cases} 2x+2y=12 \\ x=2y+3 \end{cases}$
$\begin{cases} -18x+12y=24 \\ 3x-2y=-4 \end{cases}$ 	# of Solutions: _____ Type of System: _____ Get this information from partner's solution
# of Solutions: _____ Type of System: _____ Get this information from partner's graph	$\begin{cases} y=3x+1 \\ y=3x-4 \end{cases}$

Name Answer Key Date _____ A

Special Systems of Equations – Partner Practice

Graph It!

of Solutions: 1

Type of System: Independent

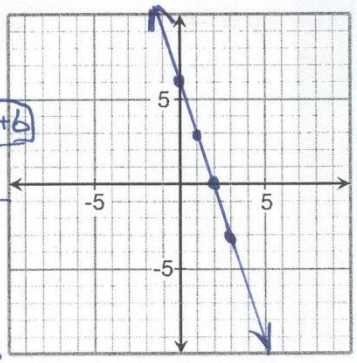
Get this information from partner's graph

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

$y+3x=6$ $y=-3x+6$

x	y
0	6
1	3
2	0
3	-3

x	y
0	6
1	3
2	0
3	-3



# of Solutions: ∞ Infinite

Type of System: dependent

Get this information from partner's solution

# of Solutions: 0

Type of System: Inconsistent

Get this information from partner's graph

Solve It!

$\begin{cases} x+2y=8 \\ y=2x-6 \end{cases}$

$x+2y=8$

$x+2(2x-6)=8$

$x+4x-12=8$

$5x-12=8$

$+12 \quad +12$

$5x=20$

$x=4$

$y=2x-6$

$y=2(4)-6$

$y=8-6$

$y=2$

$x=4$

$y=2$

$\begin{cases} 2x+4=4y \\ -x+4=-2y \end{cases} \times(2) =$

$2x+4=4y$

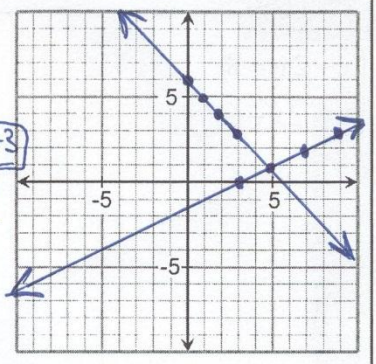
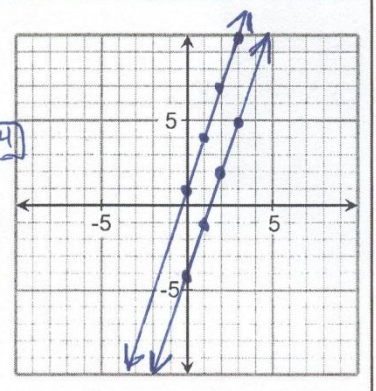
$-2x+8=-4y$

$12=0$

* The variables cancel out and $12 \neq 0$, so there are no solutions.

Answer Key - Page 2

A

Graph It!	Solve It!
$\begin{cases} 2x+2y=12 \\ x=2y+3 \end{cases}$  $2x+2y=12$: X | Y: 0 | 6; 1 | 5; 2 | 4; 3 | 3. $x=2y+3$: X | Y: 3 | 0; 5 | 1; 7 | 2; 9 | 3	# of Solutions: 1 Type of System: Independent Get this information from partner's solution
# of Solutions: Infinite Type of System: dependent Get this information from partner's graph	$\begin{cases} -18x+12y=24 \\ 3x-2y=-4 \end{cases}$ $-18x+12y=24$; $(3x-2y=-4)\times(6) = 18x-12y=-24$; $0=0$ * The variables cancel out and $0=0$, so there are an infinite number of solutions.
$\begin{cases} y=3x+1 \\ y=3x-4 \end{cases}$  $y=3x+1$: X | Y: 0 | 1; 1 | 4; 2 | 7; 3 | 10. $y=3x-4$: X | Y: 0 | -4; 1 | -1; 2 | 2; 3 | 5	# of Solutions: 0 Type of System: Inconsistent Get this information from partner's solution

Name Answer Key Date _____ B

Special Systems of Equations – Partner Practice

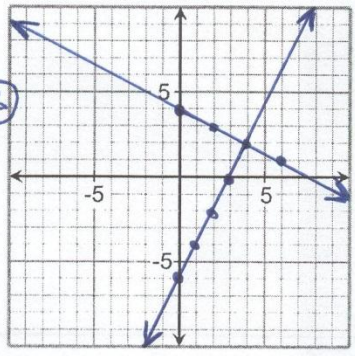
Graph It!

$\begin{cases} x+2y=8 \\ y=2x-6 \end{cases}$

$x+2y=8$ $y=2x-6$

x	y
0	4
2	3
4	2
6	1

x	y
0	-6
1	-4
2	-2
3	0



Solve It!

of Solutions: 1

Type of System: Independent

Get this information from partner's solution

# of Solutions: Infinite

Type of System: dependent

Get this information from partner's graph

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

$y+3x=6$

$(-3x+6)+3x=6$

$-3x+3x+6=6$

$6=6$

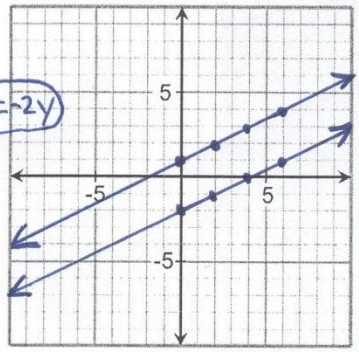
* The variables cancel out and $6=6$, so there are an infinite number of solutions

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

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

x	y
0	1
2	2
4	3
6	4

x	y
0	-2
2	-1
4	0
6	1



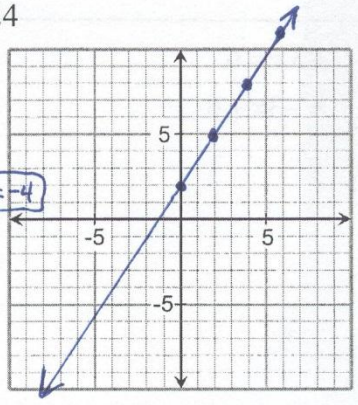
# of Solutions: 0

Type of System: Inconsistent

Get this information from partner's solution

Answer Key - Page 2

B

Graph It!	Solve It!
# of Solutions: 1 Type of System: Independent Get this information from partner's graph	$\begin{cases} 2x+2y=12 \\ x=2y+3 \end{cases}$ $2x+2y=12$ $2(2y+3)+2y=12$ $4y+6+2y=12$ $6y+6=12$ $-6 \quad -6$ $6y=6$ $y=1$ $x=2y+3$ $x=2(1)+3$ $x=2+3$ $x=5$ $x=5$ $y=1$
$\begin{cases} -18x+12y=24 \\ 3x-2y=-4 \end{cases}$ $-18x+12y=24$ x | y 0 | 2 2 | 5 4 | 8 6 | 11 $3x-2y=-4$ x | y 0 | 2 2 | 5 4 | 8 6 | 11 	# of Solutions: Infinite Type of System: dependent Get this information from partner's solution
# of Solutions: 0 Type of System: Inconsistent Get this information from partner's graph	$\begin{cases} y=3x+1 \\ y=3x-4 \end{cases}$ $y=3x+1$ $(3x-4)=3x+1$ $-3x \quad -3x$ $-4=1$ * The variables cancel out and $-4 \neq 1$, so there are no solutions.