



Name -----

Gr. 8 / A

Subject/ Math

Revision sheet

**Model Answer****Q.1) Solve.**

a)

1.  $x + 5 = 3(x + 1)$

$x = 1$

5.  $3(x - 5) = 3(2x + 1)$

$x = -6$

2.  $3(x + 5) = x + 1$

$x = -7$

6.  $3(x - 5) = -3(2x + 1)$

$x = \frac{12}{9}$

3.  $3(x + 5) = 3(2x + 1)$

$x = 4$

7.  $-3(x + 5) = -3(2x + 1)$

$x = 4$

4.  $3(x + 5) = 3(2x - 1)$

$x = 6$

8.  $-3(x - 5) = -3(2x + 1)$

$x = -6$

b)

1)  $-2x + 1 = -4x + 9$

**Answer: 4**

2)  $4x + 1 = 5x - 2$

**Answer: 3**

3)  $-4x = -x + 3$

**Answer: -1**

4)  $-3x = 5x + 8$

**Answer: -1**

5)  $-5x = 3x + 16$

**Answer: -2**

6)  $4x - 1 = -x + 9$

**Answer: 2**

7)  $x - 4 = -5x - 28$

**Answer: -4**

8)  $-5x = -2x + 6$

**Answer: -2**

9)  $-5x = 2x - 28$

**Answer: 4**

**Q.2) Solve each system of linear equations by adding or subtracting.**

1.  $x - 5y = 10$   
 $2x + 5y = 5$

(5, -1)

2.  $x + y = -10$   
 $5x + y = -2$

(2, -12)

3.  $4x + 10y = 2$   
 $-4x + 8y = 16$

(-2, 1)

4.  $-3x - 7y = 8$   
 $3x - 2y = -44$

(-12, 4)

5.  $-x + 4y = 15$   
 $3x + 4y = 3$

(-3, 3)

6.  $-4x + 11y = 5$   
 $4x - 11y = -5$

infinitely many solutions

**Q.3)**

a)

Determine whether the given ordered pair is a solution of the following system of equations.

1. (0, 1)       $3x - 2y = 5$   
 $6x - 5y = 10$

*no*

2. (2, 5)       $y - 2x = 1$   
 $-3x + y = -1$

*yes*

3.

$(-8, -1)$

$$7y - 4x = 3$$

$$5x + y = 14$$

*yes*

**Q.4)** Tell whether the equation has **one**, **zero**, or **infinitely many** solution.

Note:

Result	What does this mean?	How many solutions?
$x = a$	When the value of $x$ is $a$ , the equation is a true statement.	1
$a = a$	Any value of $x$ makes the equation a true statement.	Infinitely many
$a = b$ , where $a \neq b$	There is no value of $x$ that makes the equation a true statement.	0

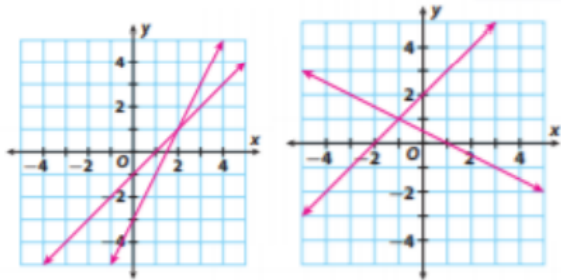
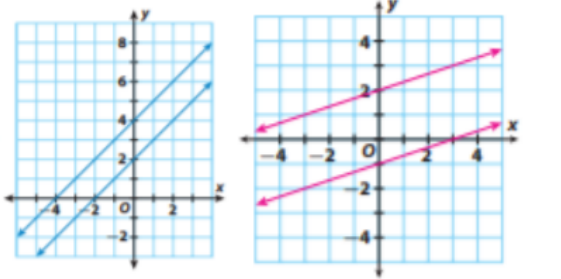
One Solution	No Solutions	Infinitely many solutions
$3x + 4 = 8x - 9$	$6x + 5 = 8 + 6x$	$10x - 4 = -4 + 10x$
$-4x - 5 = 6 - 11x$	$12 - 15x = -2 - 15x$	$-2x + 5 = -2x + 5$
$9 + \frac{1}{2}x = 5x - 1$	$\frac{5}{4}x - 1 = 1 + \frac{5}{4}x$	$7 + 9x = 9x + 7$

	One Solution $x = a$	No Solutions $a = b$	Infinitely Many Solutions $x = x$
Equation	$7x - 3 = 5x + 5$	$7x - 3 = 7x + 5$	$7x - 3 = -3 + 7x$
Use properties of equality  “Solve”	$7x - 3 = 5x + 5$ <del><math>5x + 2x - 3 = 5x + 5</math></del> $2x - 3 = 5$ $2x - 3 = 5 - 3 + 3$ $2x = 8$ $x + x = 4 + 4$ $x = 4$	$7x - 3 = 7x + 5$ <del><math>7x - 3 = 7x + 5</math></del> $-3 = 5$	$7x - 3 = -3 + 7x$ <del><math>7x - 3 = -3 + 7x</math></del> $7x = 7x$ $x = x$

	One Solution $x = a$	No Solutions $a = b$	Infinitely Many Solutions $x = x$
Equation	$3(y + 2) = 30$	$5(2 + c) = 45 + 5c$	$2(a - 2) = 2a - 4$
Use properties of equality  “Solve”	$3(y + 2) = 30$ $\frac{3(y + 2)}{3} = \frac{30}{3}$ $y + 2 = 10$ <del><math>y + 2 = 8 + 2</math></del> $y = 8$	$5(2 + c) = 45 + 5c$ $5(2) + 5(c) = 45 + 5c$ $10 + 5c = 45 + 5c$ <del><math>10 + 5c = 45 + 5c</math></del> $10 = 45$	$2(a - 2) = 2a - 4$ $2a - 4 = 2a - 4$ <del><math>2a - 4 = 2a - 4</math></del> $-4 = -4$

	<b>One Solution</b> $x = a$	<b>One Solution</b> $x = a$
<b>Equation</b>	$2x + 12 = x + 12$	You Try! $3y - 7 = y - 7$
<b>Use properties of equality</b>  <b>"Solve"</b>	$2x + 12 = x + 12$ $2x + \cancel{12} = x + \cancel{12}$ $2x = x$ $x + \cancel{x} = \cancel{x}$ $x = 0$	$3y - 7 = y - 7$ $3y \cancel{- 7} = y \cancel{- 7}$ $3y = y$ $y + y \cancel{- y} = \cancel{y}$ $y + y = 0$ $y + y = 0 + 0$ $y = 0$

**Q.5) What is the solution to the system of equations shown?**

<b>1) one solution</b> a) <b>Graph</b> .....when the lines intersect at a single point. (x,y) <b>Or</b> b) <b>Algebraically</b> ..... $x = a$	
<b>2) no solution</b> a) <b>Graph</b> ..... when the lines are parallel <b>Or</b> b) <b>Algebraically</b> False statement ..... $a \neq b$  $2=4$	

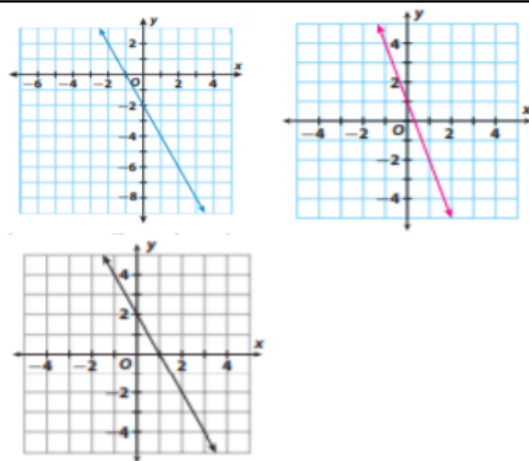
3) infinitely many solutions

a) **Graph** ..... when the lines are the same line

Or

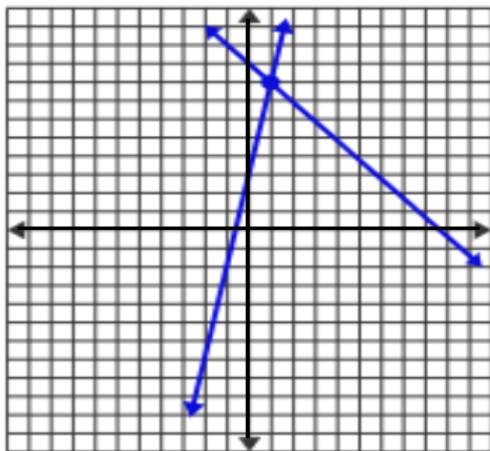
b) **Algebraically.....**

True statement .....  $a = b$  .....  $0 = 0$



$$y = -x + 9$$

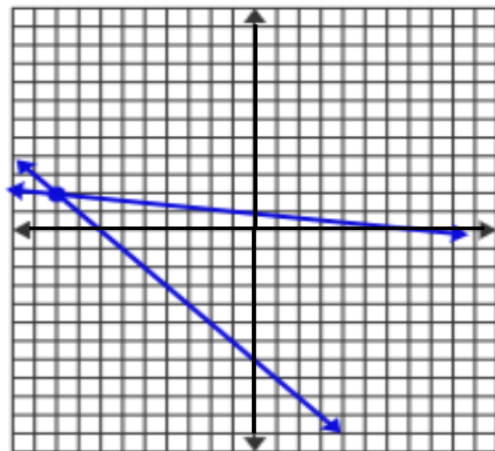
$$y = 5x + 3$$



Solution: ( 1 , 8 )

$$y = -x - 7$$

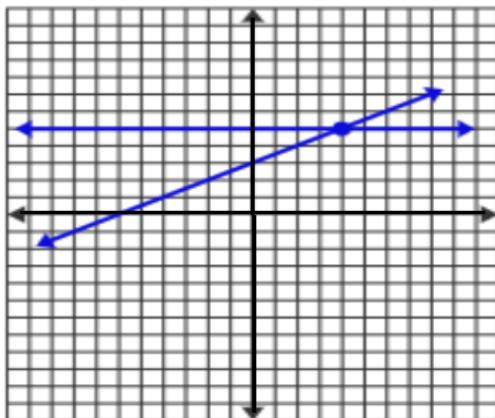
$$y = -\frac{1}{9}x + 1$$



Solution: ( -9 , 2 )

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

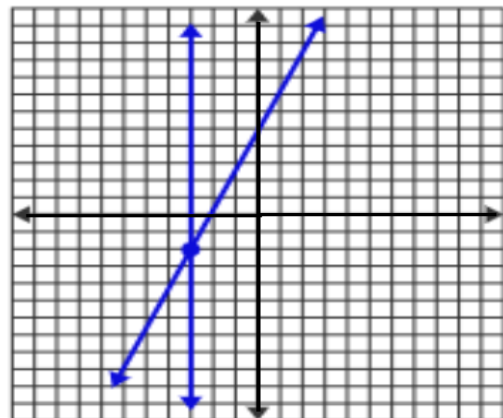
$$y = 5$$



Solution: ( 4 , 5 )

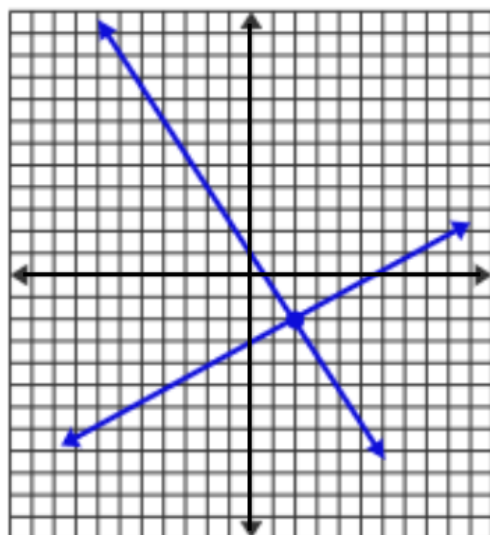
$$y = \frac{7}{3}x + 5$$

$$x = -3$$



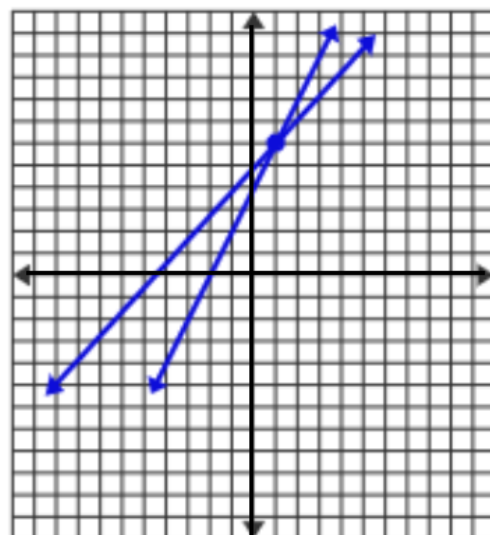
Solution: ( -3 , -2 )

$$y = -\frac{3}{2}x + 1 \quad y = \frac{1}{2}x - 3$$



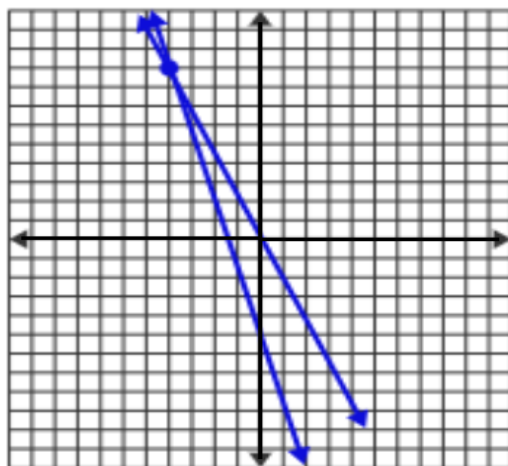
Solution: ( 2 , -2 )

$$y = 2x + 4 \quad y = x + 5$$



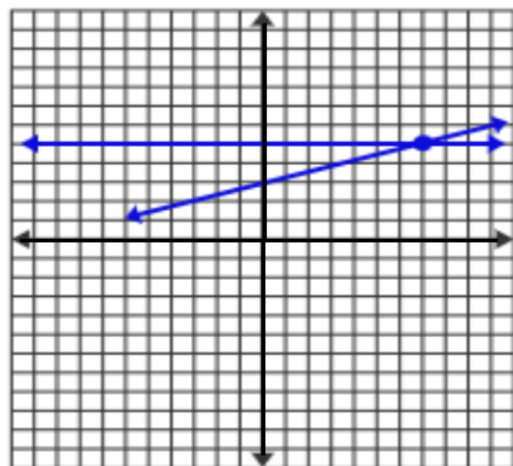
Solution: ( 1 , 6 )

$$y = -\frac{9}{4}x \quad y = -\frac{7}{2}x - 5$$



Solution: ( -4 , 9 )

$$y = \frac{2}{7}x + 3 \quad y = 5$$



Solution: ( 7 , 5 )