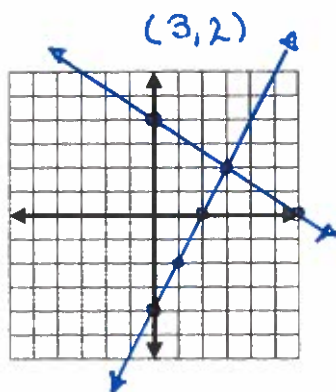
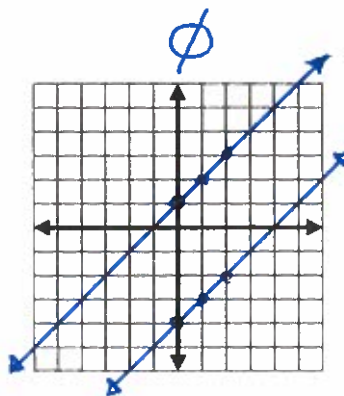


Solve the following systems of equations by using the "graphing" method. Solve for y if necessary.

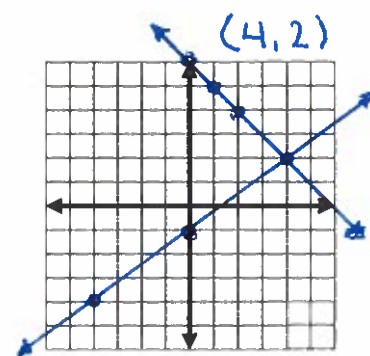
1) $y = 2x - 4$
 $y = -\frac{2}{3}x + 4$



2) $x + 1 = y$
 $2x - 2y = 8$
 $-2y = -2x + 8$
 $y = x - 4$



3) $x + y = 6 \rightarrow y = -x + 6$
 $3x - 4y = 4$
 $-4y = -3x + 4$
 $y = \frac{3}{4}x - 1$



Solve the following systems of equations by using the "substitution" method.

4) $x = 6 + y$
 $2x + y = 0$
 $2(6 + y) + y = 0$
 $12 + 2y + y = 0$
 $12 + 3y = 0$
 $3y = -12$
 $y = -4$

$x = 6 + (-4)$
 $x = 2$

$(2, -4)$

5) $x - y = 4 \rightarrow x = y + 4$
 $1 - 2x = -2y$
 $1 - 2(y + 4) = -2y$
 $1 - 2y - 8 = -2y$
 $-7 - 2y = -2y$
 $-7 = 0$
false statement

\emptyset

6) $3x + y = 5$
 $y + 4x = 7 \rightarrow y = -4x + 7$
 $3x + (-4x + 7) = 5$
 $-x + 7 = 5$
 $-x = -2$
 $x = 2$

$y = -4(2) + 7$
 $y = -8 + 7$
 $y = -1$ $(2, -1)$

For each system shown, fill in the blanks with the number or numbers you would need to multiply each equation by to *eliminate* (cancel) either variable. If an equation should not be changed, write "no change".

7) no chng $2x - 8y = 1$

8) 3 $2y - 7x = 10$

9) no chng $-x - 8y = 0$

4 $5x + 2y = -1$

-2 $3y + 3x = -6$

2 $-9x + 4y = 2$

↑ Answers will vary ↑

Solve each system of equations using the "elimination method".

10) $7y - 2x = 10$
 $2y + 2x = -1$ $(-\frac{3}{2}, 1)$

$$9y = 9$$

$$y = 1$$

$$2(1) + 2x = -1$$

$$2 + 2x = -1$$

$$2x = -3$$

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

11) $2(2x - y = -1)$
 $3x + 2y = 30$ $(4, 9)$

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

$$3x + 2y = 30$$

$$7x = 28$$

$$x = 4$$

$$2(4) - y = -1$$

$$8 - y = -1$$

$$-y = -9$$

$$y = 9$$

12) $2(2x - 3y = 8)$
 $-3(5x - 2y = -2)$ $(-2, -4)$

$$4x - 6y = 16$$

$$-15x + 6y = 6$$

$$-11x = 22$$

$$x = -2$$

$$2(-2) - 3y = 8$$

$$-4 - 3y = 8$$

$$-3y = 12$$

$$y = -4$$

Solve each of these systems using whichever method you feel is best (graphing, substitution or elimination). There are extra graphing grids at the bottom if you choose to use that method.

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

$$(2, 1)$$

14) $-5x + y = 7$
 $4y + 5x = 3$ $(-1, 2)$

$$-5x + y = 7$$

$$5x + 4y = 3$$

$$5y = 10$$

$$y = 2$$

$$4(2) + 5x = 3$$

$$8 + 5x = 3$$

$$5x = -5$$

$$x = -1$$

15) $x - 3y = -2 \rightarrow x = 3y + 2$
 $6 + 3x = 9y$

$$6 + 3(3y + 2) = 9y$$

$$6 + 9y - 6 = 9y$$

$$6 - 6 = 0$$

$$0 = 0$$

true statement

Infinitely many solutions

