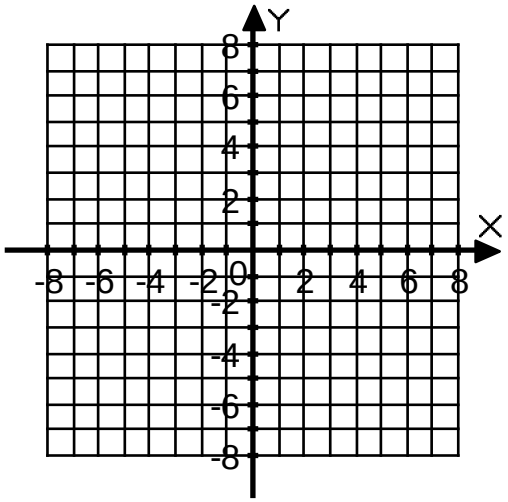
Jmath.net

NAME _____ DATE _____

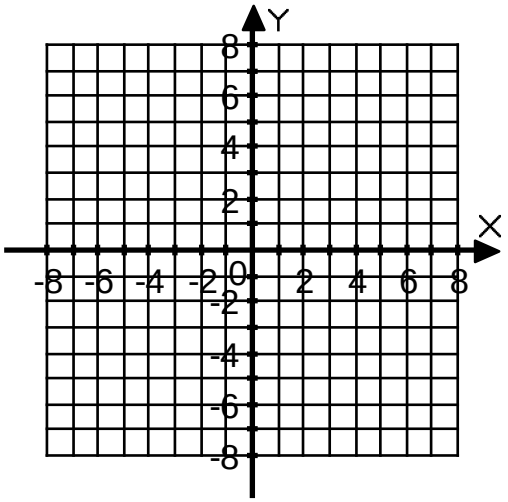
SOLVE A SYSTEM: Worksheet 1

Solve each system by graphing.

1) $y = 2x - 3$
$y = x - 1$



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



Solve each system by elimination.

3) $5x - 6y = -32$
$3x + 6y = 48$

4) $y = -5x + 4$
$y = 7x - 20$

5) $7x - 8y = 112$
$y = -2x + 9$

6) $4x + 2y = 14$
$7x - 3y = -8$

7) $7x + 2y = 10$
$-7x + y = -16$

8) $10x + 8y = 2$
$8x + 6y = 1$

9) Two times a number added to another number is 25. Three times the first number minus the other number is 20. Find the numbers.

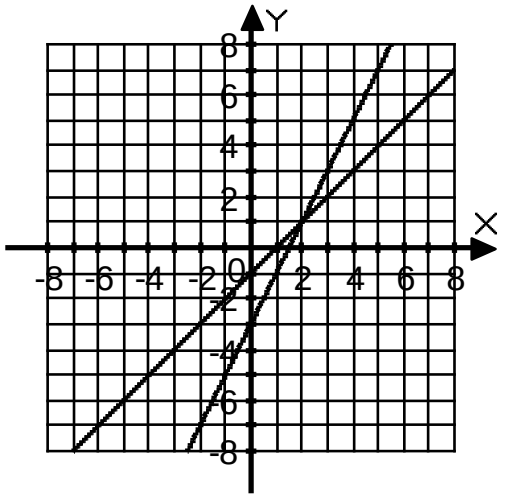
10) Tickets to a movie cost $7.25 for adults and $5.50 for students. A group of friends purchased 8 tickets for $52.75. How many adult tickets and student tickets were purchased?

KEY
SOLVE A SYSTEM: Worksheet 1

Solve each system by graphing.

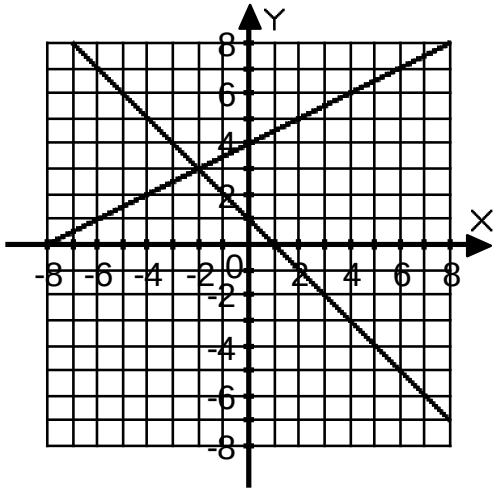
1) $y = 2x - 3$
$y = x - 1$

Solution : (2,1)



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

Solution : (–2,3)



Solve each system by elimination.

3) $5x - 6y = -32$
(+) $3x + 6y = 48$

$8x = 16$
$x = 2$
$y = 7$

Solution : (2,7)

4) $y = -5x + 4$
(-) $y = 7x - 20$

$0 = -12x + 24$
$-24 = -12x$
$x = 2$
$y = -6$

Solution : (2,–6)

5) $7x-8y=112$
$y=-2x+9$

$7x-8y=112$
$8\{2x+y=9]$

$7x-8y=112$
(+) $16x+8y=72$

$23x=184$
$x=8$
$y=-7$ *Solution* : (8,–7)

6) $4x+2y=14$
$7x-3y=-8$

$3[4x+2y=14]$
$2[7x-3y=-8]$

$12x+6y=42$
(+) $14x-6y=-16$

$26x=26$
$x=1$
$y=5$ *Solution* : (1,5)

7) $7x+2y=10$
(+) $-7x+y=-16$

$3y=-6$
$y=-2$
$x=2$ *Solution* : (2,–2)

8) $10x+8y=2$
$8x+6y=1$

$3[10x+8y=2]$
$4[8x+6y=1]$

$30x+24y=6$
(-) $32x+24y=4$

$-2x=2$
$x=-1$
$y=1.5$ *Solution* : (–1,1.5)

9) Two times a number added to another number is 25. Three times the first number minus the other number is 20. Find the numbers.

x = 1st number
y = 2nd number

$2x+y=25$
(+) $3x-y=20$

$5x=45$
$x=9$
$y=7$ *Solution* : (9,7)

10) Tickets to a movie cost $7.25 for adults and $5.50 for students. A group of friends purchased 8 tickets for $52.75. How many adult tickets and student tickets were purchased?

a = number of adult tickets
s = number of student tickets

$7.25a+5.50s=52.75$
$a+s=8$

$7.25a+5.50s=52.75$
$5.50[a+s=8]$

$7.25a+5.50s=52.75$
(-) $5.50a+5.50s=44$

$1.75a=8.75$
$a=5$
$s=3$ *Solution* : (5,3)