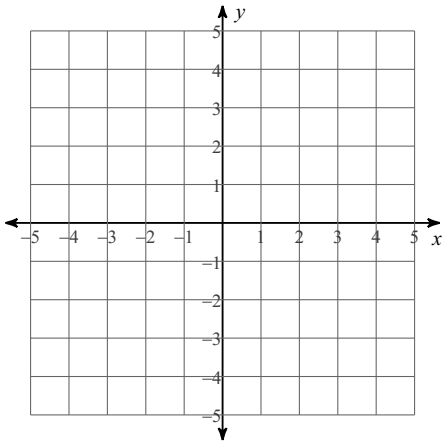
Foundations of Math & Pre-Calculus 10 Name_____

Solving Systems of Linear Equations

Solve each system by graphing.

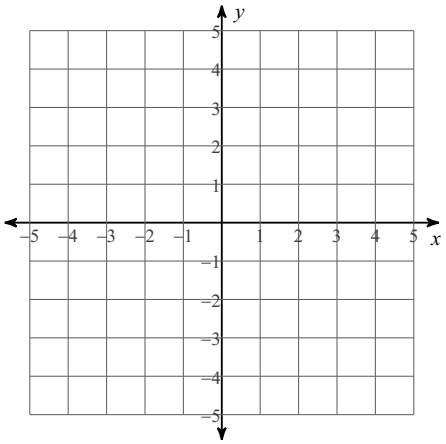
1) $y = \frac{1}{2}x - 2$

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



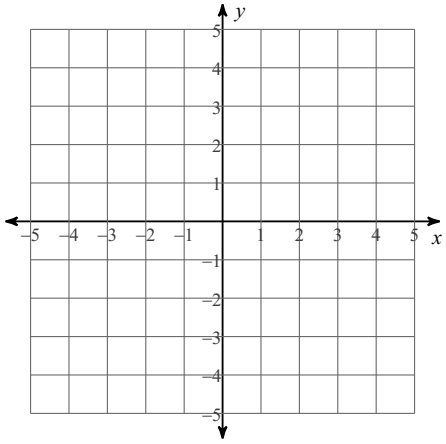
2) $y = 2x + 3$

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



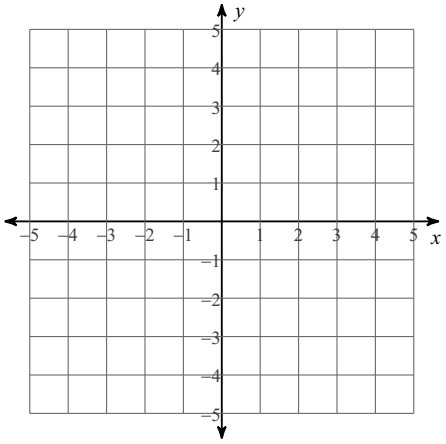
3) $y = -\frac{5}{3}x - 2$

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

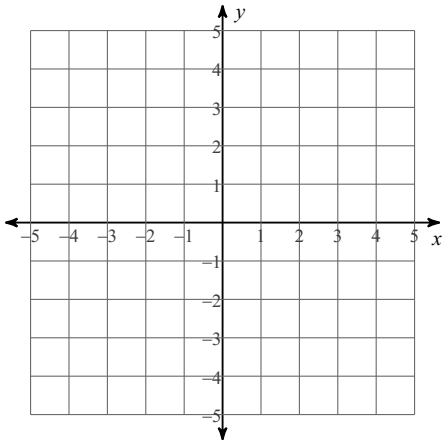


4) $y = -\frac{1}{3}x - 3$

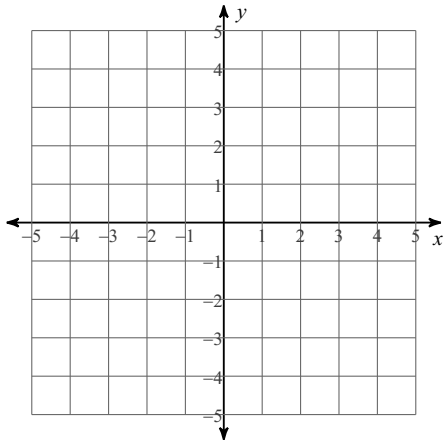
$y = \frac{1}{3}x - 1$



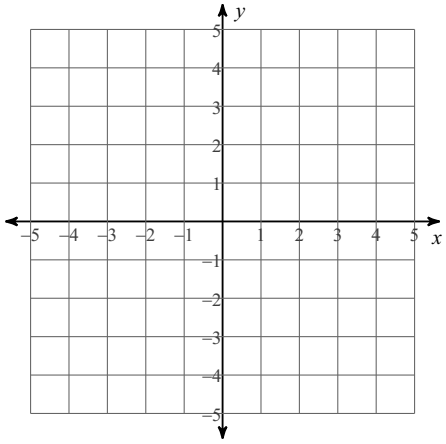
5) $3x - y = -2$
$3x + y = -4$



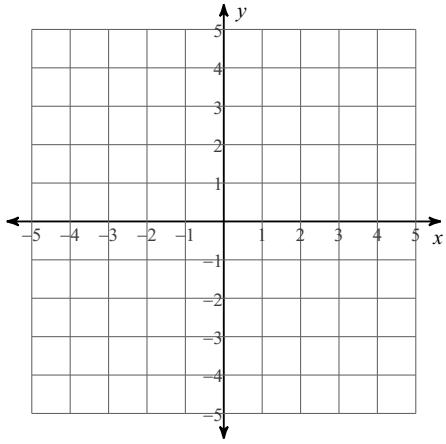
6) $x + 4y = 12$
$x = -4$



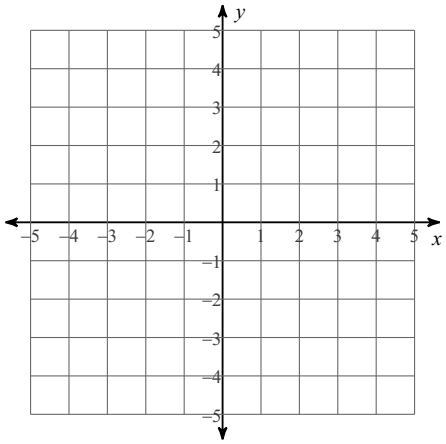
7) $x + 4y = -8$
$5x + 4y = 8$



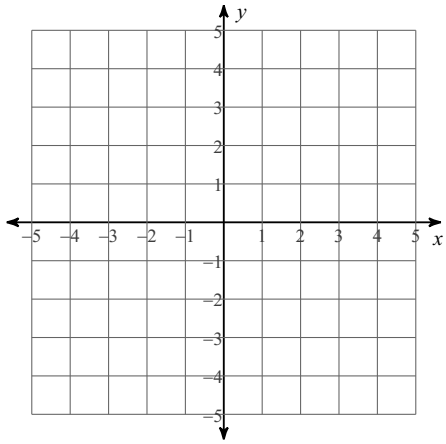
8) $y = -3$
$x - y = 1$



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



10) $x - y = 1$
$x - 4y = -8$



Solve each system by elimination.

11) $-5x + y = -11$
$5x - 8y = -17$

12) $-8x + 2y = 14$
$-10x - 2y = 4$

13) $-x - 6y = 17$
$-x - y = 2$

14) $5x - 8y = -19$
$8x - 8y = -16$

15) $-16x - 5y = 11$
$-8x + 6y = 14$

16) $2x - 6y = -14$
$10x - 7y = -1$

17) $-x - 5y = -2$
$-4x - 10y = -18$

18) $9x + 3y = 12$
$6x + 4y = 16$

19) $8x + 8y = 8$
$-5x + 3y = -13$

20) $-2x + 6y = 20$
$-5x + 10y = 20$

Solve each system by substitution.

21) $y = -5x - 1$
$y = -8x + 2$

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

23) $6x + 5y = -7$
$y = -4x - 21$

24) $5x + 6y = -4$
$y = 6x + 13$

25) $-6x + 3y = 24$
$x - 7y = -4$

26) $x - y = -2$
$4x - 8y = -20$

27) $-2x + 8y = 14$
$-2x + y = 0$

28) $-5x + y = -6$
$-4x + 8y = 24$

29) $-4x + y = -2$
$-6x + 2y = -6$

30) $-8x - 7y = 4$
$-3x + y = -13$

31) The school that Shanice goes to is selling tickets to a play. On the first day of ticket sales the school sold 4 adult tickets and 12 child tickets for a total of $124. The school took in $94 on the second day by selling 10 adult tickets and 6 child tickets. Find the price of an adult ticket and the price of a child ticket.

32) Lisa and Kristin each improved their yards by planting daylilies and ivy. They bought their supplies from the same store. Lisa spent $178 on 8 daylilies and 14 pots of ivy. Kristin spent $162 on 10 daylilies and 12 pots of ivy. Find the cost of one daylily and the cost of one pot of ivy.

33) Find the value of two numbers if their sum is 27 and their difference is 1.

34) Castel and Jill are selling cookie dough for a school fundraiser. Customers can buy packages of chocolate chip cookie dough and packages of oatmeal cookie dough. Castel sold 14 packages of chocolate chip cookie dough and 12 packages of oatmeal cookie dough for a total of $302. Jill sold 2 packages of chocolate chip cookie dough and 2 packages of oatmeal cookie dough for a total of $48. What is the cost each of one package of chocolate chip cookie dough and one package of oatmeal cookie dough?

35) The difference of two numbers is 5. Their sum is 23. Find the numbers.

Answers to Solving Systems of Linear Equations

1) $(-2, -3)$
2) $(-3, -3)$
3) $(-3, 3)$
4) $(-3, -2)$
5) $(-1, -1)$
6) $(-4, 4)$
7) $(4, -3)$
8) $(-2, -3)$
9) $(1, -3)$
10) $(4, 3)$
11) $(3, 4)$
12) $(-1, 3)$
13) $(1, -3)$
14) $(1, 3)$
15) $(-1, 1)$
16) $(2, 3)$
17) $(7, -1)$
18) $(0, 4)$
19) $(2, -1)$
20) $(8, 6)$
21) $(1, -6)$
22) $(3, -8)$
23) $(-7, 7)$
24) $(-2, 1)$
25) $(-4, 0)$
26) $(1, 3)$
27) $(1, 2)$
28) $(2, 4)$
29) $(-1, -6)$
30) $(3, -4)$
31) adult ticket: \$4, child ticket: \$9
32) daylily: \$3, pot of ivy: \$11
33) 13 and 14
34) package of chocolate chip cookie dough: \$7, package of oatmeal cookie dough: \$17
35) 9 and 14