

1. The sum of two numbers is 57. If three times the smaller number is subtracted from the larger number, the result is 9. Find the two numbers.
The larger number is
The smaller number is
2. An employment agency specializing in temporary construction help pays heavy equipment operators \$134 per day and general laborers \$87 per day. If thirty-four people were hired and the payroll was \$3663, how many heavy equipment operators were employed? How many laborers?
The number of heavy equipment operators hired was
The number of general laborers hired was
3. Ninety-seven passengers rode in a train from City A to City B. Tickets for regular coach seats cost \$117. Tickets for sleeper cars seats cost \$289. The receipts for the trip totaled \$20,121. How many passengers purchased each type of ticket?
The number of coach tickets purchased was
The number of sleeper car tickets purchased was
4. Jen Butler has been pricing Speed-Pass train fares for a group trip to New York. Three adults and four children must pay \$79. Two adults and three children must pay \$56. Find the price of the adult's ticket and the price of a child's ticket.
The price of a child's ticket is \$
The price of an adult's ticket is \$
5. On Monday, Harold picked up four donuts and three large coffees for the office staff. He paid \$5.67. On Tuesday, Melinda picked up six donuts and six large coffees for the office staff. She paid \$9.90. What is the cost of one donut? What is the cost of one large coffee?
The cost of one donut is \$
The cost of one large coffee is \$
6. Against the wind a small plane flew 280 miles in 1 hour and 10 minutes. The return trip took only 50 minutes. What was the speed of the wind? What was the speed of the plane in still air?
The speed of the plane in still air was mph.
The speed of the wind was mph.

Date: 2/9/15
Time: 3:42 PM

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Book: Tobey: Beginning and Intermediate
Algebra, 4e

7. A basketball player scored 18 times during one game. She scored a total of 32 points, two for each two-point shot and one for each free throw. How many two-point shots did she make? How many free throws?
- How many two-point shots did she make?

(Simplify your answer.)
- How many free throws did she make?

(Simplify your answer.)
-
8. Nick's telephone company charges \$0.05 per minute for weekend calls and \$0.09 per minute for calls made on weekdays. This month Nick was billed for 546 minutes. The charge for these minutes was \$45.90. How many minutes did he talk on weekends and how many minutes did he talk on weekdays?
- The number of weekend minutes used was .
- The number of weekday minutes used was .
-
9. A basketball team played 60 games. They won 28 more than they lost.
- How many games did they win?
How many games did they lose?
- How many games did they win?
- How many games did they lose?
-
10. The perimeter of a standard-sized rectangular rug is 24 ft. The length is 2 ft longer than the width. Find the dimensions.
- What is the width? ft
- What is the length? ft
-
11. At a concession stand, five hot dogs and two hamburgers cost \$9.75; two hot dogs and five hamburgers cost \$11.25. Find the cost of one hot dog and the cost of one hamburger.
- What is the cost of one hot dog?
\$
(Simplify your answer.)
- What is the cost of one hamburger?
\$
(Simplify your answer.)

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Time: 3:42 PM

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12. A lab technician mixed a 640 ml solution of water and alcohol. If 3% of the solution is alcohol, how many milliliters of alcohol were used, and how many milliliters of water were used?

The amount of alcohol used was ml. (Type an integer or a decimal.)

The amount of water used was ml. (Type an integer or a decimal.)

13. One canned juice drink is 25% orange juice; another is 10% orange juice. How many liters of each should be mixed together in order to get 15L that is 18% orange juice?

How many liters of the 25% orange juice should be in the mixture? L

How many liters of the 10% orange juice should be in the mixture? L

14. \$5900 is invested, part of it at 11% and part of it at 6%. For a certain year, the total yield is \$ 509.00. How much was invested at each rate?

How much was invested at 11% ? \$

How much was invested at 6% ? \$

Date: 2/9/15
Time: 3:45 PM

Course: MATH110 A009 Win 15
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Algebra, 4e

1. In the graph of the system $y > 9x + 8$ and $y < -6x + 3$, would the boundary lines be solid or dashed? Why?
- Would the boundary lines be solid or dashed? Why?
- ☐ A. The boundary lines would be solid because they are included as part of the solution of the system whenever the system of inequalities contains only $<$ or $>$ symbols.
 - ☐ B. The boundary lines would be dashed because they are included as part of the solution of the system whenever the system of inequalities contains only $<$ or $>$ symbols.
 - ☐ C. The boundary lines would be dashed because they are not included in the solution of the system whenever the system of inequalities contains only $<$ or $>$ symbols.
 - ☐ D. The boundary lines would be solid because they are not included in the solution of the system whenever the system of inequalities contains only $<$ or $>$ symbols.
-
2. Stephanie wanted to know if the point $(3, -4)$ lies in the region that is a solution for $y < -2x + 3$ and $y > 5x - 3$. How could she determine if this is true?
- How could Stephanie determine if the point $(3, -4)$ lies in the region that is a solution for $y < -2x + 3$ and $y > 5x - 3$?
- ☐ A. She could substitute 3 for x and -4 for y in each inequality. If the point satisfies both inequalities, it lies in the region that is a solution. Otherwise, it does not.
 - ☐ B. She could determine if the lines $y = -2x + 3$ and $y = 5x - 3$ intersect at $(3, -4)$. If so, the point lies in the region that is a solution. Otherwise, it does not.
 - ☐ C. She could determine if the point lies on either the line $y = -2x + 3$ or the line $y = 5x - 3$. If so, the point lies in the region that is a solution. Otherwise, it does not.
 - ☐ D. She could substitute 3 for x and -4 for y in each inequality. If the point satisfies at least one inequality, it lies in the region that is a solution. Otherwise, it does not.

Date: 2/9/15
Time: 3:45 PM

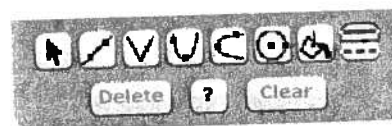
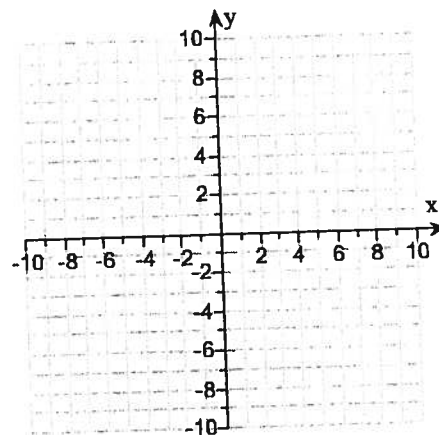
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3. Graph the solution of the following system.

$$y \geq 4x - 1$$

$$x + y \leq 8$$

Use the graphing tool to graph the system.

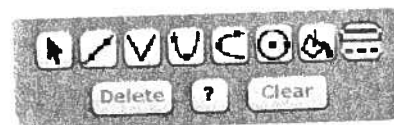
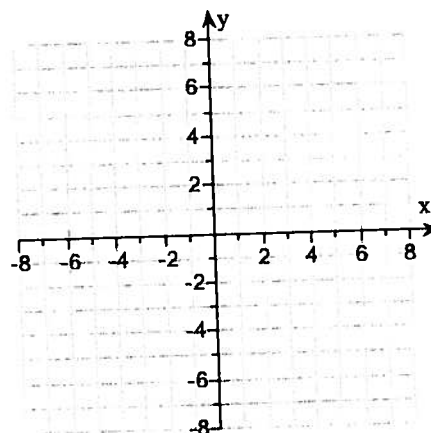


4. Graph the solution of the following system.

$$y \geq -3x$$

$$y \geq 4x + 5$$

Use the graphing tool to graph the system.



Date: 2/9/15
Time: 3:45 PM

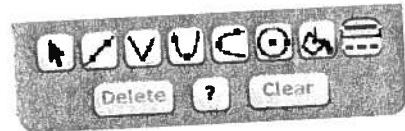
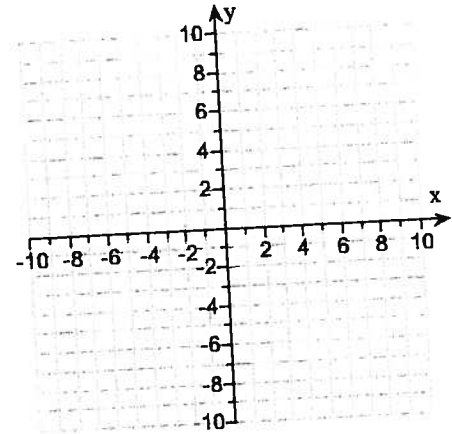
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5. Graph the solution of the following system.

$$y \geq 4x - 1$$

$$y \leq \frac{2}{5}x$$

Use the graphing tool to graph the system.

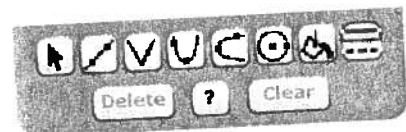
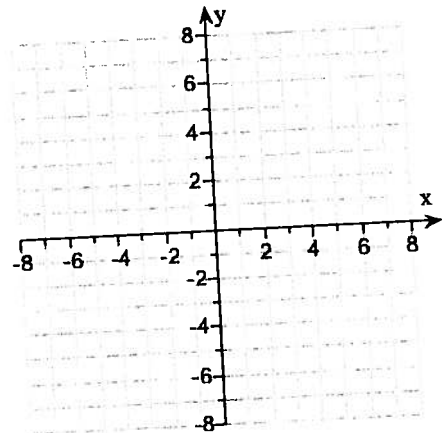


6. Graph the solution of the following system.

$$x - y \geq -2$$

$$-3x - y \leq 1$$

Use the graphing tool to graph the system.



Date: 2/9/15
Time: 3:45 PM

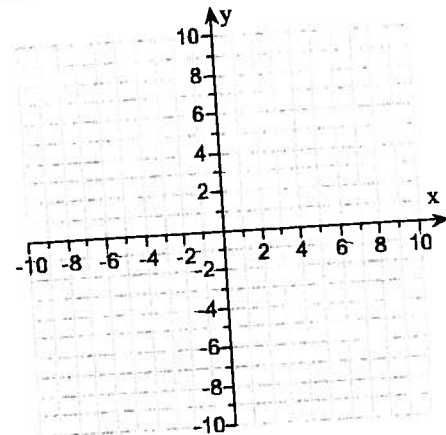
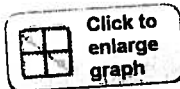
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7.

Graph the solution of the following system.

$$\begin{aligned}x + 4y &< 20 \\ y &< 5\end{aligned}$$

Use the graphing tool to graph the system.

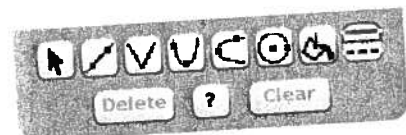
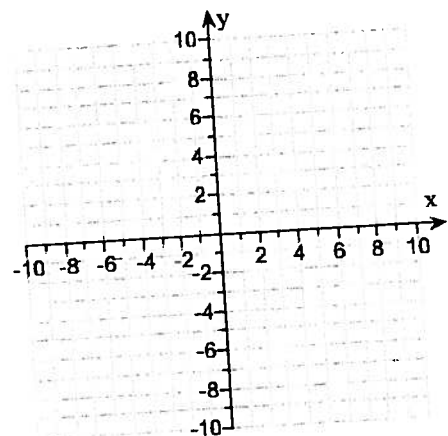
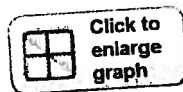


8.

Graph the solution of the following system.

$$\begin{aligned}y &< 3 \\ x &> -4\end{aligned}$$

Use the graphing tool to graph the system.



Date: 2/9/15
Time: 3:45 PM

Course: MATH110 A009 Win 15
Book: Tobey: Beginning and Intermediate
Algebra, 4e

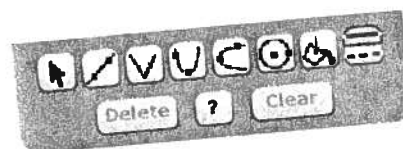
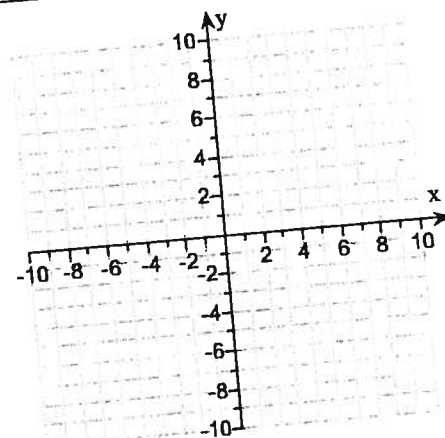
9.

Graph the solution of the following system.

$$x - 4y \geq -8$$

$$3x + y \leq 6$$

Use the graphing tool to graph the system.



10.

Graph the solution of the following system.

$$4x + 3y < 12$$

$$4x + 3y > -12$$

Use the graphing tool to graph the system.

