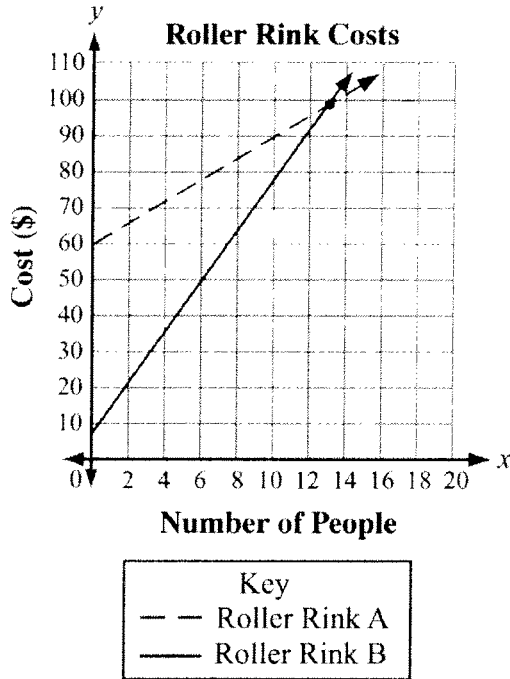


Systems of Equations/Ineq

Name: _____

1. The graph below shows the cost for going roller skating at 2 roller rinks.



Bianca is going roller skating with a group of friends. Roller Rink A charges \$3.00 per person and a \$60 group fee. Roller Rink B charges \$7.00 per person and an \$8.00 group fee. When comparing costs, which statement is true?

- A. Roller Rink A always costs less.
 B. Roller Rink B always costs less.
 C. Roller Rink A costs less if Bianca's group has fewer than 13 people.
 D. Roller Rink B costs less if Bianca's group has fewer than 13 people.
2. What is the y-value of the solution to the following system of linear equations?
- $$y = x + 8$$
- $$x + 2y = 1$$
- A. -7 B. -5 C. 3 D. 13

3. The computer lab offers classes after school. In addition to an hourly rate, h , a registration fee, f , is charged. The equations below model the cost for a 2-hour and a 3-hour class.

$$2h + f = 65$$

$$3h + f = 90$$

What amount is charged for the registration fee?

- A. \$15 B. \$25 C. \$30 D. \$40

4. What is the solution to this system of equations?

$$\begin{cases} y = -3x - 2 \\ 6x + 2y = -4 \end{cases}$$

- A. (6, 2)
 B. (1, -5)
 C. no solution
 D. infinitely many solutions

5. Leslie makes extra money by baby-sitting. Depending on the job, Leslie charges parents according to one of the two plans shown below.

Plan 1: A flat rate of \$5.00 per hour

Plan 2: An initial fee of \$10.00, plus \$2.50 per hour

For what number of hours are the charges from the two plans equal?

- A. 2 B. 4 C. 10 D. 20

6. The only coins that Alexis has are dimes and quarters.

- Her coins have a total value of \$5.80.
- She has a total of 40 coins.

Which of the following systems of equations can be used to find the number of dimes, d , and the number of quarters, q , that Alexis has?

- A. $d + q = 5.80$
 $40d + 40q = 5.80$
- B. $d + q = 40$
 $5.80d + 5.80q = 40$
- C. $d + q = 5.80$
 $0.10d + 0.25q = 40$
- D. $d + q = 40$
 $0.10d + 0.25q = 5.80$

7. A system of inequalities is shown.

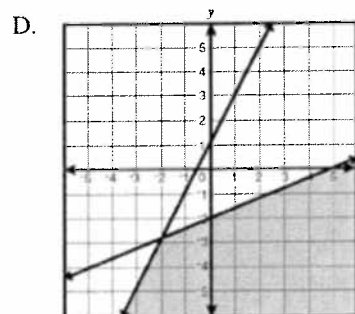
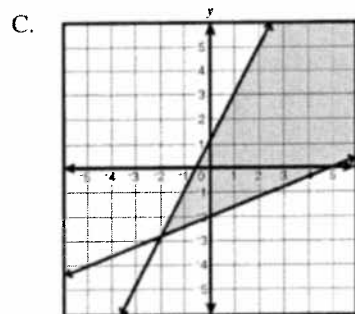
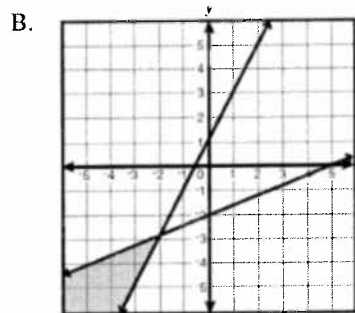
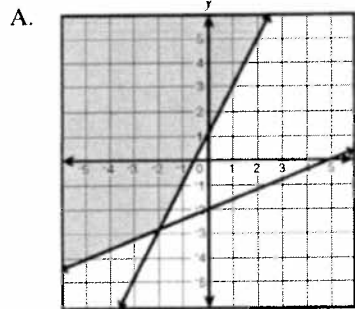
$$\begin{aligned} 2x - y &> -2 \\ x + y &< 2 \end{aligned}$$

Which quadrant or quadrants contain(s) possible solutions to this system of inequalities?

- A. Quadrant I
- B. Quadrants I and II
- C. Quadrants II and III
- D. Quadrants I, II, III, and IV

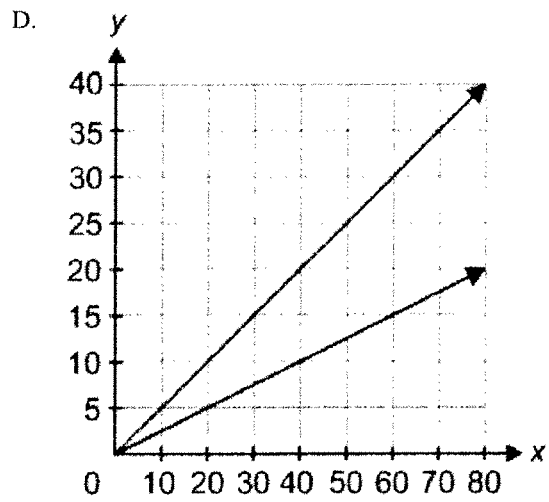
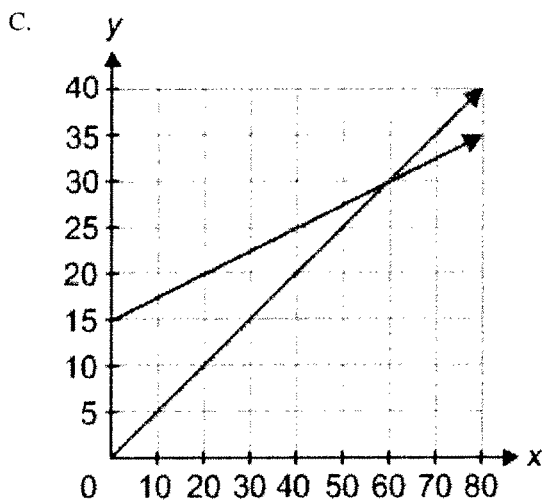
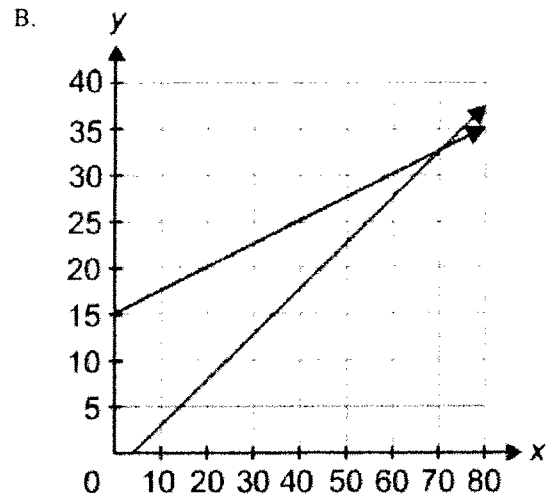
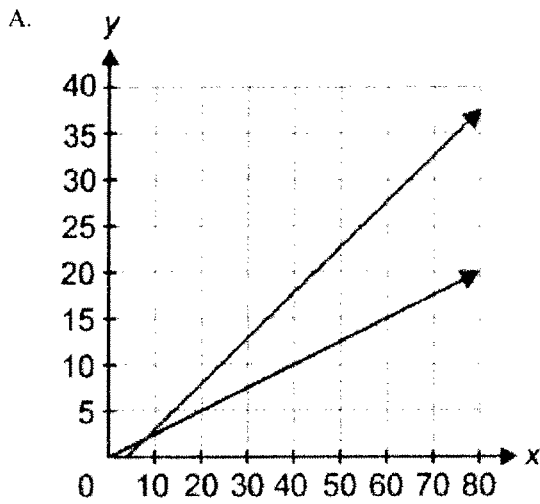
8. Which graph *best* represents the solution to this system of inequalities?

$$\begin{cases} 2x \geq y - 1 \\ 2x - 5y \leq 10 \end{cases}$$



9. Twenty years ago, Mike was four times as old as John. Four years from now, Mike will be twice as old as John. Let x represent the Mike's age and y represent the John's age.

Which graph represents this situation?



10. The equation

$$d = 24w + 180$$

represents d , the demand for a CD at Jim's Music Store after w , weeks.

The equation

$$s = 800 - 100w$$

represents s , the supply for the same CD after w weeks.

After how many weeks will the demand for the CD equal the supply?

- A. 4 B. 5 C. 8 D. 13
11. If 4 notebooks and 3 packages of pens cost \$7.43 and 5 notebooks and 2 packages of pens cost \$7.03, what is the cost of 1 notebook?

- A. \$0.89 B. \$0.79 C. \$1.29 D. \$1.09

12. Use the graphs below to answer the question.

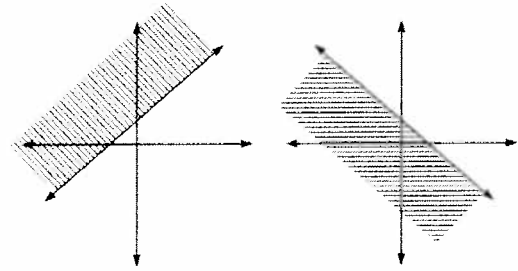
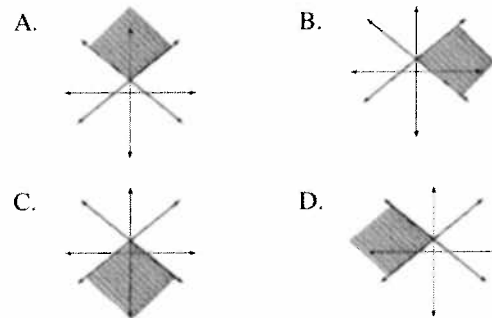


Illustration #1

Illustration #2

If $y \geq 1x + 1$ is represented by the graph in Illustration #1 and $y \leq -1x + 1$ is represented by the graph in Illustration #2, then which of the following graphs would represent the solution of this system of inequalities?

$$y \geq 1x + 1, \quad y \leq -1x + 1$$

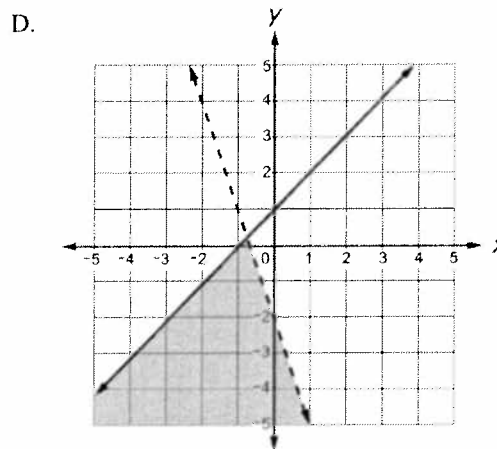
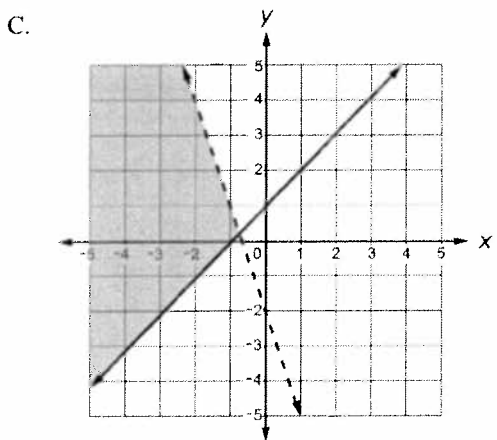
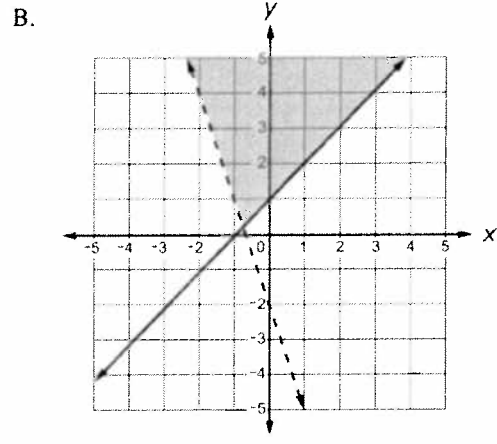
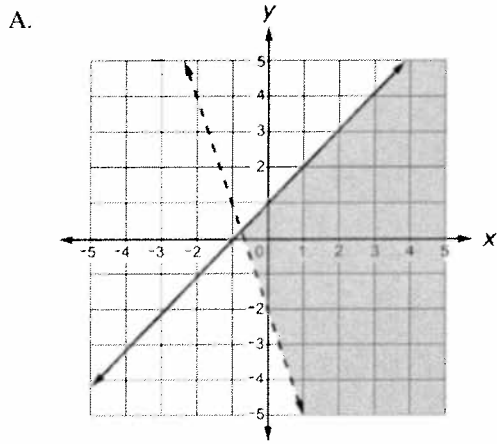


13. Use the system of inequalities to answer the question.

$$y \leq x + 1$$

$$y > -3x - 2$$

Which graph shows the solution to this system of inequalities?



14. Julia and Marcia bought identically priced cans of chili and identically priced jars of salsa to make a dip.

- Julia bought 3 cans of chili and 2 jars of salsa for \$10.07.
- Marcia bought 2 cans of chili and 4 jars of salsa for \$12.98.

Which of the following systems of equations could be used to find x , the cost of one can of chili, and y , the cost of one jar of salsa?

- A. $x + y = 10.07$
 $x + y = 12.98$
- B. $10.07x + 12.98y = 11$
 $x + y = 11$
- C. $2x + 4y = 10.07$
 $2x + 3y = 12.98$
- D. $3x + 2y = 10.07$
 $2x + 4y = 12.98$

15. Two linear equations are given below.

$$\begin{aligned}2x - 3y &= 12 \\ -4x + 6y &= 6\end{aligned}$$

Which of the following statements about the equations is true?

- A. They represent the same line.
- B. They represent lines with negative slopes.
- C. They represent parallel lines.
- D. They represent perpendicular lines.

16. Andre has a dog pen in the shape of a rectangle.

- The perimeter of his dog pen is 60 feet.
- The length of his dog pen is twice its width.

What is the area of Andre's dog pen?

- A. 200 square feet B. 225 square feet
- C. 800 square feet D. 900 square feet

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Systems of Equations/Ineq Keystone Practice #5 11/13/2013

1.
Answer: D
2.
Answer: C
3.
Answer: A
4.
Answer: D
5.
Answer: B
- 6.
7.
Answer: D
8.
Answer: C
9.
Answer: B
10.
Answer: B
11.
Answer: A
12.
Answer: C
13.
Answer: A
14.
Answer: A
15.
Answer: C
16.
Answer: A

