

ACC CCGPS/A
Reasoning with Equations/Inequalities Test Review

Name Key

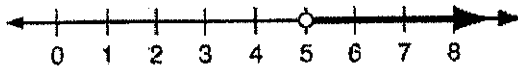
Multiple choice.

- C 1. Which inequality represents the situation "at least 160 cats are in the kennel"?
- A. $c > 160$ B. $c < 160$
 C. $c \geq 160$ D. $c \leq 160$

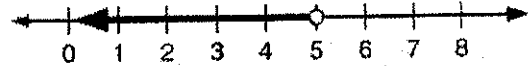
- D 2. Mrs. Nelson is buying folding chairs that are on sale for \$10. If she has \$50, which inequality can be solved to show the number of chairs c she can buy?
- A. $10 + c > 50$ B. $10 - c < 50$
 C. $10c \geq 50$ D. $10c \leq 50$

- C 3. Which graph represents $x \geq 5$?

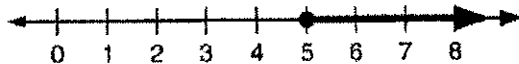
A.



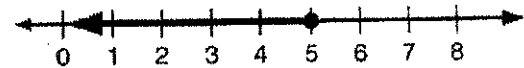
B.



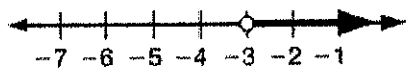
C.



D.



- B 4. Which of the following inequalities represents the graph?



- A. $x \geq -3$ B. $x > -3$
 C. $x \leq -3$ D. $x < -3$

- C 5. Tia's car needs repairs. Honest Harry will charge \$70 per hour plus \$130 for the part. Lucky Lou will charge \$80 per hour plus \$40 for the part. How long is the job if the two costs are the same?
- A. 5 hr B. 17 hr
 C. 9 hr D. 20 hr

- D 6. How many solutions does the given system have?

$$\begin{cases} y = 2x + 1 \\ -4x + 2y = 2 \end{cases}$$

- A. none B. exactly two
 C. exactly one D. infinitely many



7. Which describes a system with exactly one solution?

- A. consistent and independent
- C. inconsistent

- B. consistent and dependent
- D. dependent

8. Which describes a system with no solutions?

- A. consistent and independent
- C. inconsistent

- B. consistent and dependent
- D. dependent

Graph the following system. Label each line. Clearly indicate solution.

9. $\begin{cases} x+3y=15 \\ 3x-2y=12 \end{cases}$

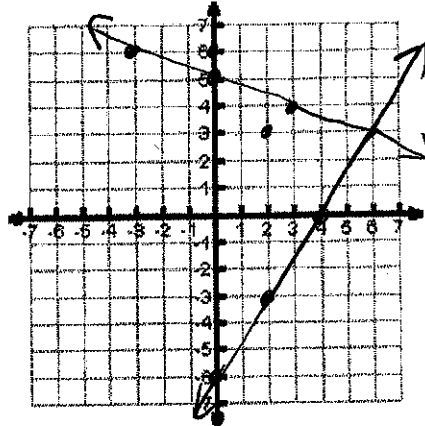
$$\frac{3y}{3} = \frac{-x+15}{3}$$

Solution (6,3)

$$y = -\frac{1}{3}x + 5$$

$$\frac{2y}{2} = \frac{-3x+12}{-2}$$

$$y = \frac{-3x+12}{-2}$$

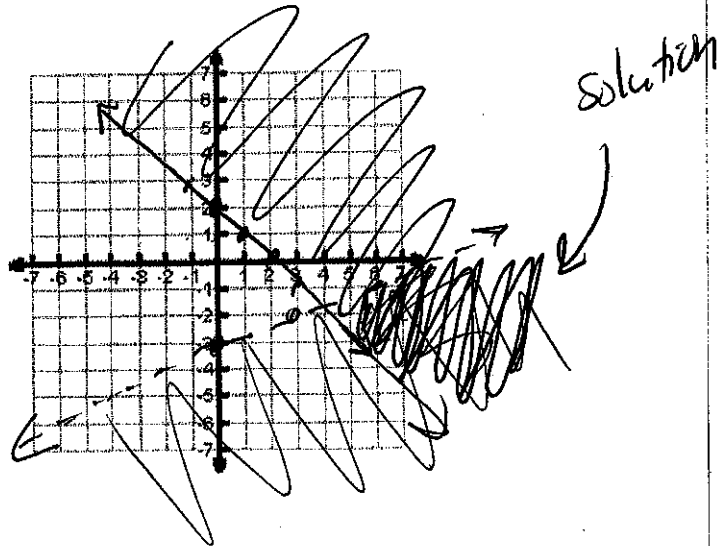


10. $\begin{cases} x+y \geq 2 \\ x-3y > 9 \end{cases}$

$$y \geq -x + 2$$

$$\frac{-3y}{-3} > \frac{-x+9}{-3}$$

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



11. Tell whether (-5, -6) is a solution of $\begin{cases} x-2y=7 \\ y-x=-1 \end{cases}$. Justify your answer.

$$-5 - 2(-6) = 7 \quad \checkmark$$

$$-6 - (-5) = -1 \quad \checkmark$$

11. yes



Solve the following systems. Show all work.

$$12. \begin{cases} 2x + 5y = 19 \\ -3x + 4y = 29 \end{cases} \cdot 2$$

$$\begin{array}{r} 6x + 15y = 57 \\ -6x + 8y = 58 \\ \hline 23y = 115 \\ y = 5 \end{array}$$

$$2x + 5(5) = 19$$

$$2x = -6$$

$$x = -3$$

$$23y = 115$$

$$y = 5$$

12. $(-3, 5)$

$$13. \begin{cases} 7x - y = 52 \\ 2y = x - 26 \end{cases} \cdot 2$$

$$\begin{array}{r} 2(7x - y = 52) \\ -x + 2y = -26 \\ \hline 14x - 2y = 104 \\ -x + 2y = -26 \\ \hline 13x = 78 \\ x = 6 \end{array}$$

$$2y = 6 - 20$$

$$2y = -14$$

$$y = -7$$

$$14. \begin{cases} -9x + y = -83 \\ 17x - y = 155 \end{cases}$$

$$8x = 72$$

$$x = 9$$

$$-9(9) + y = -83$$

$$y = -2$$

13. $(6, -7)$

14. $(9, -2)$

15. A test has twenty-five questions worth 70 points. True/False questions are worth 2 points each and multiple choice questions are worth 4 points each. How many of each are there? Show all work. You must show equations.

$$\begin{array}{r} -2(T + M = 25) \\ 2T + 4M = 70 \\ -2T - 2M = -50 \\ \hline 2M = 20 \\ M = 10 \end{array}$$

True/False 15

Multiple Choice 10

16. Jasmine and her sister are saving to buy MP3 players. Jasmine has \$50 and plans to save \$10 per week. Her sister has \$80 and plans to \$7 per week. In how many weeks will they have saved the same amount? Show all work, you must show equations.

$$50 + 10x = 80 + 7x$$

$$3x = 30$$

$$x = 10$$

16. 10 weeks

