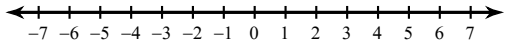
CC Algebra 1 Name_____

Mid Term Review - Inequalities

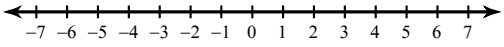
Date_____ Period____

Draw a graph for each inequality.

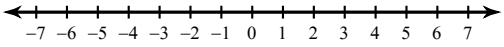
1) $n < -3$



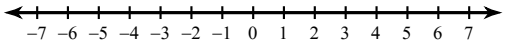
2) $n \leq 6$



3) $x \geq 3$

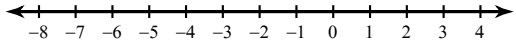


4) $a > 2$

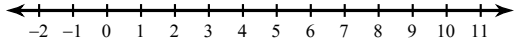


Solve each compound inequality and graph its solution.

5) $\frac{n}{8} \geq 0$ or $-6n \geq 30$

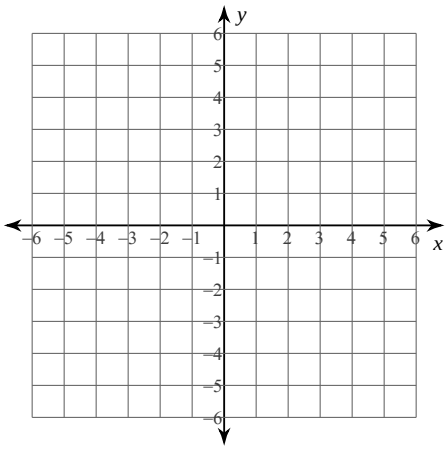


6) $0 \leq \frac{n}{5} \leq 2$

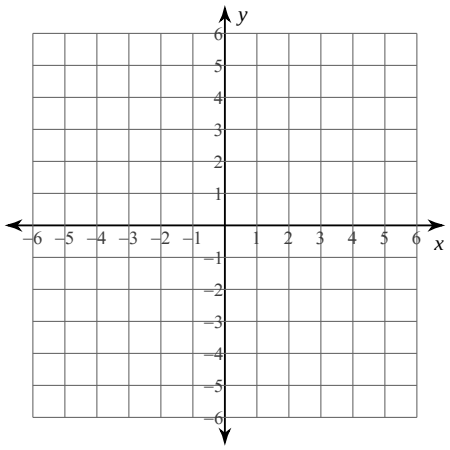


Sketch the graph of each linear inequality.

7) $y < \frac{9}{5}x + 5$



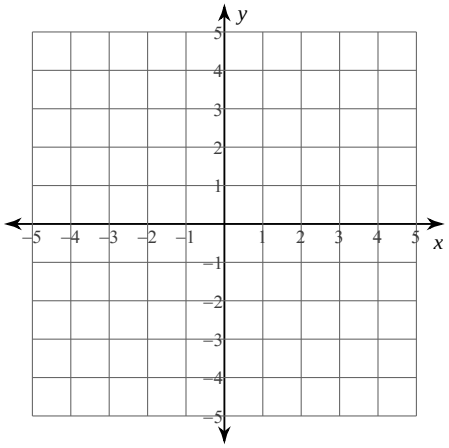
8) $y \geq -\frac{1}{4}x - 4$



Sketch the solution to each system of inequalities.

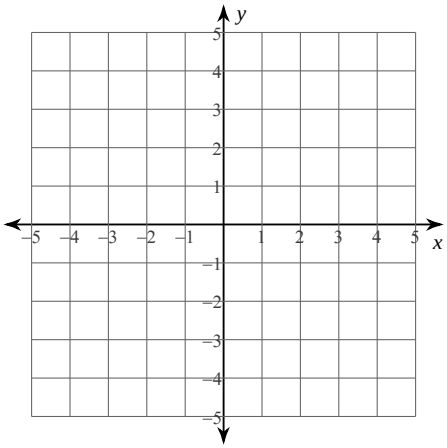
9) $y \leq 2x - 3$

$y < \frac{1}{3}x + 2$



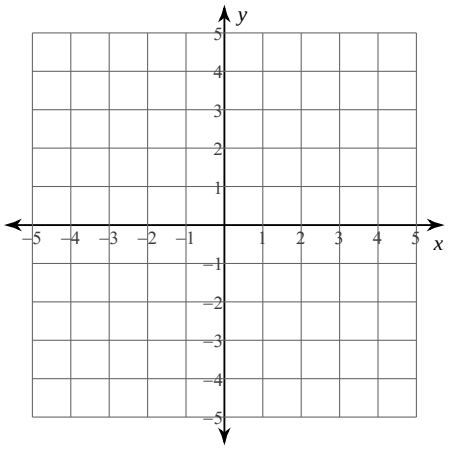
10) $y < \frac{3}{2}x + 2$

$y \geq -\frac{1}{2}x - 2$



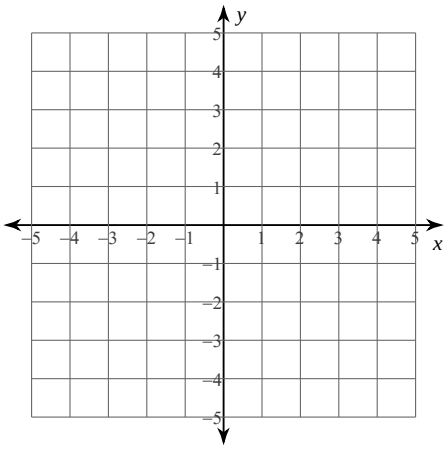
11) $y \geq -1$

$x + y < -3$

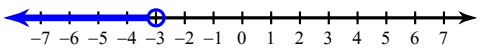


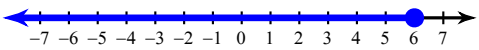
12) $x + 2y \leq 6$

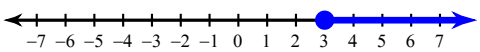
$x - 2y \leq -2$

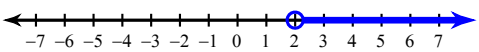


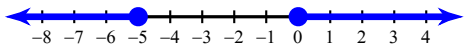
Answers to Mid Term Review - Inequalities (ID: 1)

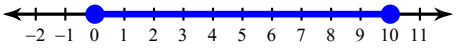
1) 

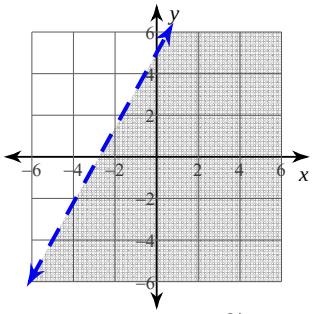
2) 

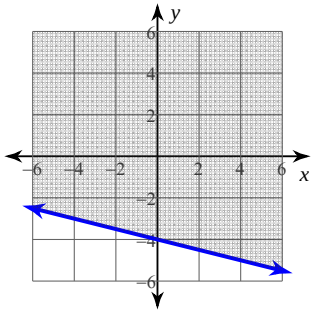
3) 

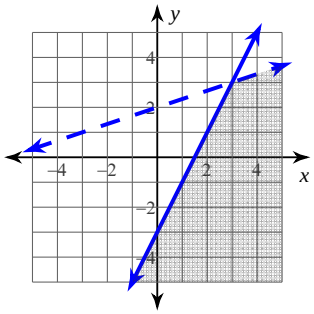
4) 

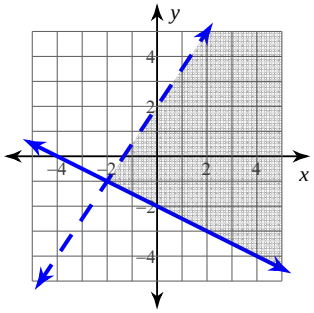
5) $n \geq 0$ or $n \leq -5$: 

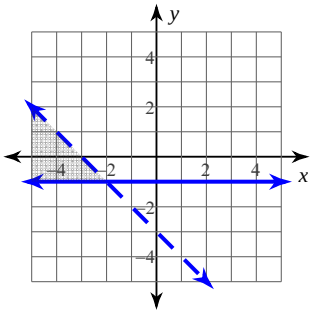
6) $0 \leq n \leq 10$: 

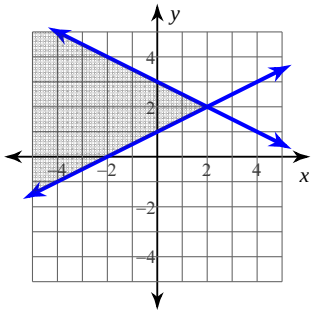
7) 

8) 

9) 

10) 

11) 

12) 

Name _____ Date _____ Class _____

Relationships Between Quantities

Test Form A

Select the best answer.

1. The width of a rectangle is 6 units less than its length x. Which expression shows the width of the rectangle?

   A $x - 6$ C $x + 6$

   B $6 - x$ D $6x$

2. Which verbal expression shows $4 \div n$?

   F n divided by 4

   G the quotient of 4 and n

   H the product of 4 and n

   J 4 decreased by n

3. Evaluate $x \div y$ for $x = 3$ and $y = 12$.

   A 0.25 C 9

   B 4 D 36

4. Solve $x - 68 = -121$.

   F -189 H 53

   G -53 J 189

5. Solve $34.8 = a + 5.8$.

   A 29 C 39.8

   B 29.8 D 40.6

6. A printer holds 500 sheets of paper. After printing, it held 210 sheets. Which equation can be used to find how many sheets were printed?

   F $s - 500 = 210$ H $210 - 500 = s$

   G $210 + 500 = s$ J $500 - s = 210$

7. Solve $-13m = -156$.

   A -13 C 12

   B -12 D 13

8. Solve $-\frac{3}{8}h = 9$.

   F -24

   G -3.375

   H 9.375

   J 72

9. The quotient of n and -0.5 is 13. What is the value of n?

   A -26 C 6.5

   B -6.5 D 26

10. Kevin ran at a rate of 13 km/h. Convert his speed to meters per minute.

    F ≈0.2 m/min H ≈217 m/min

    G ≈3.6 m/min J ≈13,000 m/min

11. Solve $\frac{1}{x-6} = \frac{3}{12x}$.

    A -2 C $-\frac{6}{5}$

    B $-\frac{3}{2}$ D 10

12. There are 30 singers in a show. The ratio of singers to dancers is 5:6. How many dancers are there?

    F 16 H 36

    G 30 J 55

13. The area of a rectangle was 15 cm^2. Every dimension was multiplied by a scale factor and the new area was 3.75 cm^2. What was the scale factor?

    A 0.5 C 4

    B 2 D 8

14. Jack is 1.75 m tall and casts a shadow 2.25 m long. At the same time, a statue casts a shadow 9 m long. What is the height of the statue?

    F 4 m H 7 m

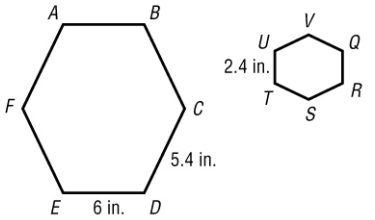
    G 5.75 m J 11.6 m

Name _____ Date _____ Class _____

Relationships Between Quantities

Test Form A *continued*

16. *ABCDEF* ~ *QRSTUV*. Find the length of $\overline{ST}$.



F 2.16 in. H 2.67 in.
G 2.5 in. J 2.9 in.

18. Write two verbal expressions for $\frac{k}{10}$.

_____

_____

19. Evaluate $p + q$ for $p = 1.4$ and $q = 0.1$.

_____

20. $11.5 = a + 4.5$

_____

21. Write an equation to represent the relationship "a number decreased by negative 2 is equal to 21." Then solve the equation.

_____

_____

Solve each equation.

22. $-4.8t = 9.6$

_____

23. Write an equation to represent the relationship "the product of a number and -2.5 is 60." Then solve the equation.

24. Solve $\frac{3}{-s+1} = \frac{6}{s+4}$.

_____

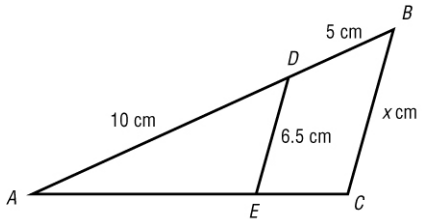
25. The ratio of students to faculty members in a high school is 23:5. If there are 80 faculty members, how many students are there?

_____

26. A triangle has an area of 40 square centimeters. Its dimensions are multiplied by a scale factor, forming a new triangle with an area of 640 square centimeters. What was the scale factor?

_____

27. Find the value of x in the diagram. $\Delta ABC \sim \Delta ADE$.



_____

Use the table for questions 28 and 29.

Scientist	Length (mm)
Dr. Skelton	34.787
Dr. Gellar	34.81
Dr. Harris	34.9

28. Three scientists measure a 34.86 mm fossil. Which scientist was the most precise?

_____

29. Three scientists measure a 34.86 mm fossil. Which scientist was the most accurate?

_____

Name _____ Date _____ Class_____

Equations

Answers

Unit Test A [for folios 9, 10]

1. D
2. H
3. B
4. G
5. A
6. J
7. C
8. F
9. B
10. H
11. A
12. H
13. A
14. H
15. D
16. F
17. A

18. Possible answers: "k divided by 10," or, "the quotient of k and 10."
19. 1.5
20. $a = 7$
21. $n - (-2) = 21$; $n = 19$
22. $t = -2$
23. $-2.5n = 60$; $n = -24$
24. $s = -\frac{2}{3}$
25. 368 students
26. 4
27. 9.75 cm
28. Dr. Skelton
29. Dr. Harris
30. 211.43 oz–216.57 oz

Name _____ Date _____ Class_____

Reasoning with Equations and Inequalities

Test Form A

Select the best answer.

1. A printing company will charge \$6 plus \$0.07 per page. Another company will charge \$24 plus \$0.04 per page for the same project. For how many pages will the costs be the same regardless of which company is used?

   A 330 C 600

   B 400 D 1000

2. Solve $-10(x - 1) = 10 - 10x$.

   F no solution

   G -1

   H 0

   J all real numbers

3. 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 $10c \leq 50$

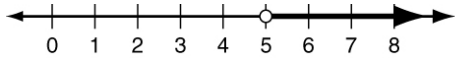
   B $10c \geq 50$

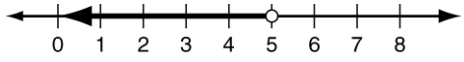
4. Latisha is on page 30 of her book and reads 3 pages every night. Sal is on page 40 of the same book and reads 2 pages every night. How long will it take Latisha to be further in the book than Sal?

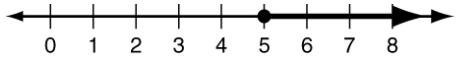
   F 3 nights H 15 nights

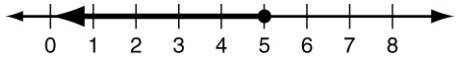
   G 11 nights J 71 nights

5. Which graph represents $b \geq 5$?

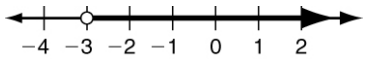
   A 

   B 

   C 

   D 

6. Which inequality is shown by the graph below?

   F $x > -3$ H $x < -3$

   G $x \geq -3$ J $x \leq -3$

7. Which inequality represents the situation "no more than 160 students are in the freshman class"?

   A $s > 160$ C $s < 160$

   B $s \geq 160$ D $s \leq 160$

8. Solve $x + 7 > 2$.

   F $x > -5$ H $x > 5$

   G $x < -5$ J $x < 5$

9. Solve $-4(x - 1) < 12$.

   A $x > -2$ C $x > -3$

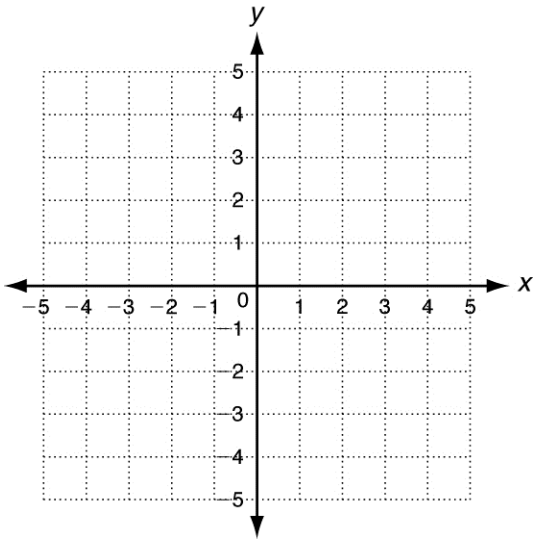
   B $x < -2$ D $x < -3$

10. Solve $2^3 - a > -3(2 - 6)$.

    F $a < -6$ H $a < -4$

    G $a > -6$ J $a > -4$

11. Solve by any method: $\begin{cases} -x + y = 1 \\ x + y = 3 \end{cases}$.



A (2, 1)

B (1, 2)

Name _____ Date _____ Class_____

Reasoning with Equations and Inequalities

Test Form A *continued*

Solve each equation.

13. $10a - 35 = -8a + 1$

_____

14. $5(x + 1) = 5(x + 5) - 15$

_____

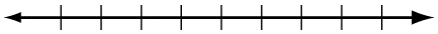
15. Describe the solutions of $\frac{1}{3}x \geq 2$ in words.

_____

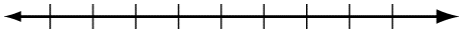
_____

Graph each inequality.

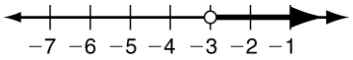
16. $k \leq -1$



17. $w > 2\frac{1}{2}$



18. Write the inequality shown by the graph.



_____

19. Citizens less than 18 years old are not allowed to vote. Define a variable and write an inequality for the ages of citizens who are not allowed to vote.

_____

_____

Solve each inequality.

20. $\frac{x-3}{-7} \leq 8$

_____

21. $-12 + 3x - 3^2 < 18$

_____

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

_____

24. Solve: $\begin{cases} y = -6x + 10 \\ y = -6x + 3 \end{cases}$.

_____

Name _____ Date _____ Class_____

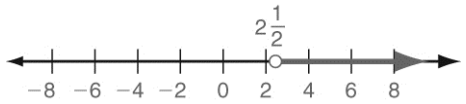
Reasoning with Equations and Inequalities

Answers

Test Form A

1. C
2. J
3. A
4. G
5. C
6. F
7. D
8. F
9. A
10. H
11. B
12. F

13. $a = 2$
14. no solution
15. all real numbers greater than or equal to 6
16. 

17. 

18. $x > -3$
19. a = age; $a < 18$; cannot be negative
20. $x \geq -53$
21. $x < 13$
22. sales greater than $22,000
23. yes
24. inconsistent