

Algebra WEEK 17

Monday, JANUARY 09, 2012

GRAPHING SYSTEMS OF LINEAR INEQUALITIES AND
USING TEST POINTS WORKSHEETS

Tuesday, JANUARY 10, 2012

7-1 PROPERTIES OF EXPONENTS

Wednesday, JANUARY 11, 2012

7-2 SCIENTIFIC NOTATION

Thursday, JANUARY 12, 2012

7-3 MULTIPLICATION PROPERTIES OF EXPONENTS
PAGE 412, 18-52 even

Friday, JANUARY 13, 2012

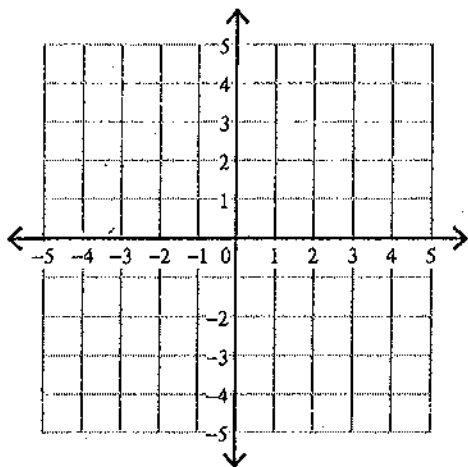
7-4 DIVISION PROPERTIES OF EXPONENTS
PAGES 419-421, 9-16, 21-24

Solving Systems of Inequalities

Sketch the solution to each system of inequalities.

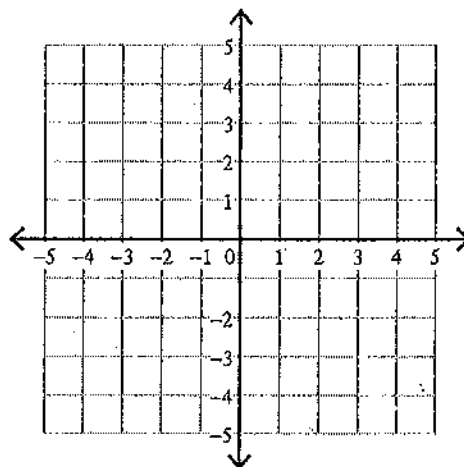
1) $y \leq \frac{5}{2}x - 2$

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



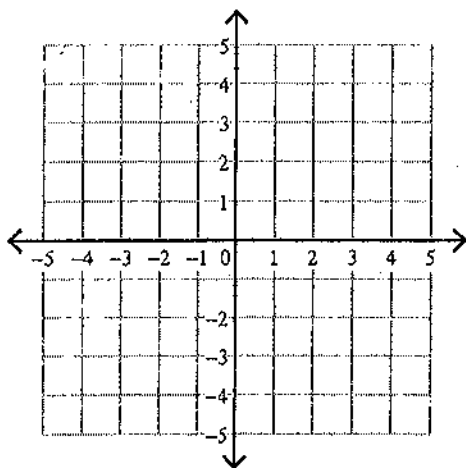
2) $y \geq \frac{5}{2}x + 2$

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



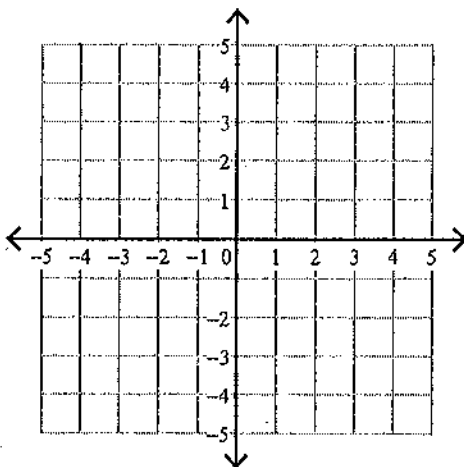
3) $y \leq \frac{1}{2}x + 2$

$y > 3x - 3$



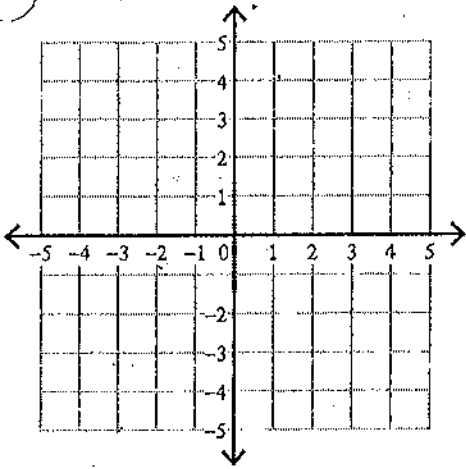
4) $y < -3$

$y \geq 4x + 1$



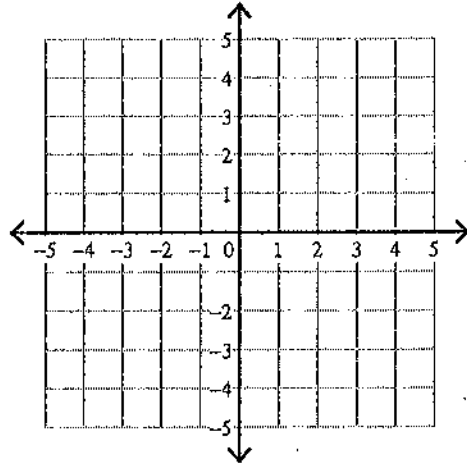
$$5) y \geq \frac{1}{3}x - 1$$

$$y \leq \frac{4}{3}x + 2$$



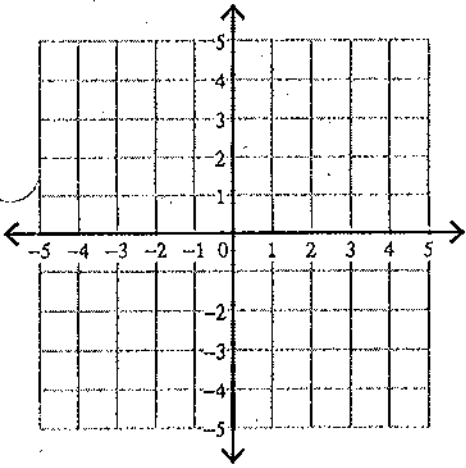
$$6) y > -\frac{1}{3}x - 3$$

$$y \leq \frac{5}{3}x + 3$$



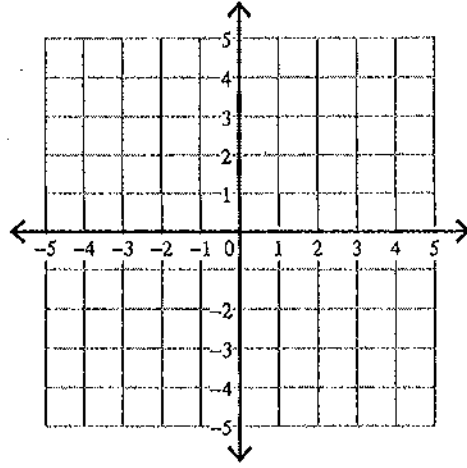
$$7) 2x + y < -3$$

$$2x - y \leq -1$$



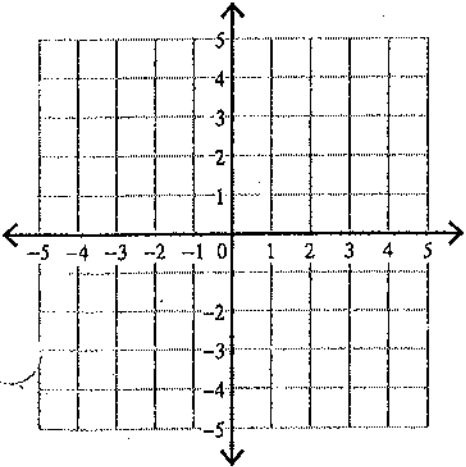
$$8) 3x + y > -3$$

$$x + 2y < 4$$



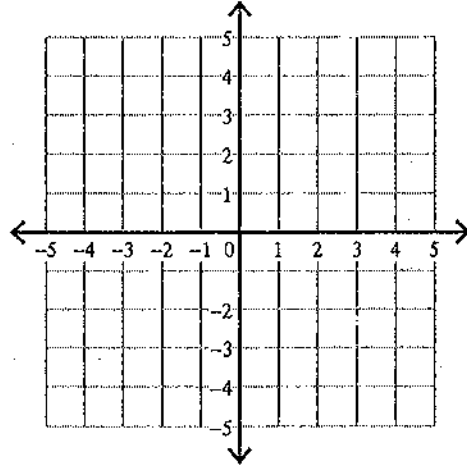
$$9) x + y \geq -3$$

$$5x - y \leq -3$$



$$10) 3x - y \geq -1$$

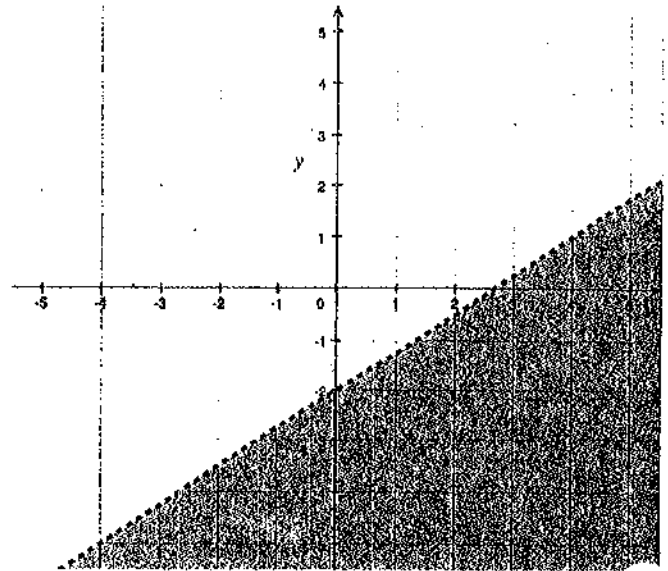
$$x + y \leq -3$$



Practice Graphing Linear Inequalities

1) Determine if each point is a solution to the inequality $3x - 4y > 8$ by using the graph shown.

- a) (3, -4)
- b) (4, 1)
- c) (-3, -4)
- d) (0, 0)
- e) (-4, -5)
- f) (1, -10)
- g) (-1.5, -5)



2) Check your answers to problem 1 algebraically.

- a) (3, -4)
- b) (4, 1)
- c) (-3, -4)
- d) (0, 0)
- e) (-4, -5)
- f) (1, -10)
- g) (-1.5, -5)

Name: _____

Is the Point a Solution?

Directions:

- 1) On the coordinate plane below, graph the line $x - 2y = 8$.
- 2) Determine if each of the given points is a solution of the inequality $x - 2y \leq 8$ by substituting the x- and y-coordinates into the inequality.
 - a. If it is a solution, plot a **Y** for "yes" at the given coordinates.
 - b. If it is not a solution, plot an **N** for "no" at the given coordinates.
- 3) Answer the questions that follow.

Split this work with your table partners to speed it up!

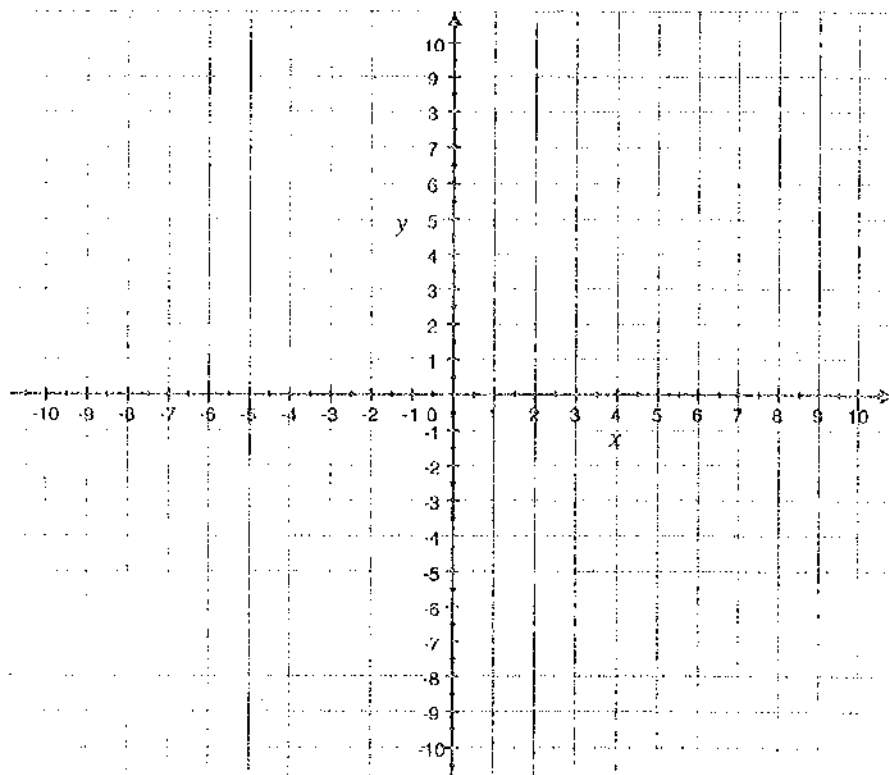
(0, 0)	(-6, -7)	(0, -5)	(4, -6)
(3, 3)	(8, 0)	(-3, -9)	(-4, 2)
(1, -6)	(9, -2)	(-4, -6)	(0, 6)
(5, -3)	(-8, -4)	(-8, -10)	(8, 8)

Questions:

1) What do you notice about where the Ys and Ns are?

2) Why is $x - 2y = 8$ called a "boundary line"?

3) How would this picture change if the inequality had been $x - 2y < 8$ instead of $x - 2y \leq 8$?



Algebra I

Name _____

Assignment

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $x^0 \cdot 3x^2y^0$

2) $v^{-4} \cdot 2uv^2$

3) $4x^{-2}y^2 \cdot y$

4) $2y^{-2} \cdot 3x^2 \cdot 3x^4y^2$

5) $2x^4y^0 \cdot 4x^3y^3 \cdot 4xy^0$

6) $3x^{-1} \cdot 2x^4$

7) $2x^{-1}y^{-2} \cdot 4x^{-3}y^2$

8) $3y^2 \cdot x^3y^3 \cdot x^3y^2$

9) $4x^2 \cdot 4y^4$

10) $2y \cdot 4x^2y^{-1}$

11) $4m^3n^3 \cdot 2m^{-2}n^4$

12) $2xy^0 \cdot 4y^2$

13) $x^{-1}y^0 \cdot 4xy^0$

14) $3u^{-1}v^{-1} \cdot v^3$

15) $4x^{-4}y^3 \cdot 2y^2 \cdot 2x^3y^0$

16) $2x^4y^{-2} \cdot 2y^3$

17) $2n^2 \cdot m^{-3}n^2$

18) $3u^4v^4 \cdot 3v^{-1}$

19) $a^2b^0 \cdot b^2$

20) $3vu^{-1} \cdot 2u^{-1}v^2 \cdot u^2v^3$

21) $x^{-1} \cdot 3xy$

22) $4x^3y^{-2} \cdot x^2y^{-4}$

23) $4u \cdot 3vu^2$

24) $2u^2v^4 \cdot 2uv^0$

25) $4x^{-3}y^3 \cdot 2x^3y^{-2} \cdot 4y^3$

26) $x^3y^3 \cdot yx^2$

27) $3n^0 \cdot 3n^3$

28) $3m^{-1} \cdot mn^{-3}$

29) $v \cdot 2u^{-2}v^2$

30) $2a^4 \cdot 3a^{-3}b^2 \cdot 2a^0b^{-2}$

Algebra 1

Name _____

Assignment

Date _____ Period _____

Simplify. Your answer should contain only positive exponents.

1) $x^2y^3 \cdot 4x^2y^3$

2) $a^3b^4 \cdot ab^4$

3) $3m^4 \cdot 3m^{-1}n^{-1}$

4) $2y^2 \cdot y^2$

5) $m^3 \cdot 2m$

6) $4x^2y^2 \cdot x^3y^{-4}$

7) $2y \cdot 3y^3$

8) $3yx^{-4} \cdot 3x^2$

9) $4m^4n^3 \cdot 3m^2n^3$

10) $4x^{-3}y^{-1} \cdot 3x^{-3}y^3 \cdot 2x^{-3}y^{-4}$

11) $3yx^{-2} \cdot 4y^2$

12) $4u^3v^{-2} \cdot 4u$

13) $2nm^3 \cdot nm^{-1}$

14) $y^{-3} \cdot 4x^{-4}y^4$

15) $x^{-3}y^{-1} \cdot 2y^{-2} \cdot 2x^{-1}$

16) $3x^4y^3 \cdot y^0$

17) $2ab^2 \cdot 3a^0b^0$

18) $2x^{-3}y^2 \cdot 3y^4$

19) $2a^4b^4 \cdot a^{-1}b^2$

20) $3m^{-2} \cdot 2m^0n^2$

21) $3x^2y^{-3} \cdot 4y^0$

22) $2m^3n^3 \cdot 2n^{-1} \cdot m^4n^0$

23) $2x^{-2} \cdot 2xy^4$

24) $2x^{-4}y^4 \cdot yx^4$

25) $u^0 \cdot 4u^{-1}v^3$

26) $3x^{-1}y^4 \cdot 3x^0y^3$

27) $4xy^4 \cdot 3x^{-2}y^4$

28) $2x^0y^4 \cdot yx^3$

29) $4x^{-3}y^2 \cdot 4y^3$

30) $2b^2 \cdot a^0b^3$

Writing in Scientific Notation

Write each number in scientific notation.

1) 0.000006

2) 5400000

3) 60

4) 0.009

5) 6.7

6) 0.0000002

7) 2000000

8) 71×10^3

9) 48900

10) 0.0000009

11) 0.63×10^1

12) 33×10^{-3}

13) 0.000216

14) 0.0042

15) 0.15×10^{-2}

16) 4.8

Write each number in standard notation.

17) 0.9×10^{-1}

18) 2×10^{-1}

19) 2×10^5

20) 804×10^2

21) 2.66×10^4

22) 1.5×10^{-2}

23) 7.75×10^{-1}

24) 8.3×10^7

25) 9.5×10^7

26) 1.71×10^7

27) 0.9×10^{-3}

28) 38×10^2

29) 7.5×10^{-5}

30) 4×10^0

31) 8.4×10^5

32) 4×10^{-5}

Operations With Scientific Notation

Simplify. Write each answer in scientific notation.

1) $(1.08 \times 10^{-3})(9.3 \times 10^{-3})$

2) $(2 \times 10^{-4})(8.1 \times 10^{-1})$

3) $(2.32 \times 10^{-6})(4 \times 10^{-5})$

4) $(3.48 \times 10^3)(9.8 \times 10^4)$

5) $(7.1 \times 10^{-5})(6.7 \times 10^{-6})$

6) $(6 \times 10^3)(9.91 \times 10^0)$

7) $\frac{7.1 \times 10^6}{8.2 \times 10^1}$

8) $\frac{5.4 \times 10^{-1}}{3.4 \times 10^1}$

9) $\frac{4 \times 10^4}{3.63 \times 10^{-4}}$

10) $\frac{9 \times 10^{-5}}{9.24 \times 10^{-6}}$

11) $\frac{8.42 \times 10^3}{5 \times 10^2}$

12) $\frac{8.9 \times 10^6}{8.4 \times 10^6}$

13) $(8.9 \times 10^5)^4$

14) $(4 \times 10^{-5})^{-6}$