

Name: _____

Semester: _____

Course: _____

1. Whole Numbers	X	
Pre-Review		
1.1 Place Value		
1.2 Read and Write		
1.3 Add		
1.4 Subtract		
1.5 Round		
1.6 Estimate		
1.7 Multiply		
1.8 Divide		
1.9 Basic Statistics		
1.10 Exponents		
1.11 Radicals		
1.12 Order of Operations		
1.13 Perimeter, Area, & Volume		
1.14 Application		

2. Fractions	X	
Pre-Review		
2.1 Divisibility Rules		
2.2 Prime Factoring		
2.3 Reducing		
2.4 Convert Mixed/Improper Fractions		
2.5 Multiply		
2.6 Divide		
2.7 Least Common Multiple		
2.8 Add		
2.9 Subtract		

3. Decimals	X	
Pre-Review		
3.1 Place Value		
3.2 Read & Write		
3.3 Ordering Decimals		
3.4 Round		
3.5 Add		
3.6 Subtract		
3.7 Multiply		
3.8 Divide		
3.9 Converting		
3.10 Comparing		
3.11 Circumference		

4. Integers	X	
Pre-Review		
4.1 Introduction		
4.2 Add/Subtract		
4.3 Multiply/Divide		
4.4 Absolute Value		

5. Exponents	X	
Pre-Review		
Provide rule sheet to student	X	
5.1 Basic Simplification		
5.2 Advanced Simplification		

6. Order of Operations	X	
Pre-Review		
PEMDAS Handout		
6.1 Simplify		

7. Principles of Algebra	X	
Pre-Review		
7.1 Language of Algebra		
7.2 Simplifying Expressions		
7.3 Evaluating Expressions		
7.4 Multiplying Polynomials		
7.5 Divide Polynomials		

Students must have instructor approval before advancing to next skill. **Approval indicated by instructor's initials.**

X= Items Mastered 100% from Pre-Review
Initials from instructor represent 90% Mastery per Skill

Name: _____

Semester: _____

Course: _____

8. Solving Equations	X	
Pre-Review		
8.1 One Step-Equations		
8.2 Muti-Step Equations		
8.3 Clearing Fractions		
8.4 Absolute Value		
8.5 Translating Words		

9. Percent	X	
Pre-Review		
9.1 Convert w/all three		
9.2 Solving Percents		

10. Solving Inequalities	X	
Pre-Review		
10.1 Solve and Graph		
10.2 Absolute Value		

11. Linear Equations	X	
Pre-Review		
11.1 Plot X and Y Coordinates		
11.2 Finding Ordered Pair Solutions		
11.3 Finding and Graphing X and Y Intercepts		
11.4 Finding slope of two points		
11.5 Graphing Using Slope and Y-Intercept		
11.6 Point-Slope Form of the equation of a line		
11.7 Graphing Inequalities		

12. Solving Systems	X	
Pre-Review		
12.1 Substitution method		
12.2 Elimination method		

13. Radicals	X	
Pre-Review		
13.1 Simplify Radicals		
13.2 Nth Root Rule		
13.3 Add/Subtract		
13.4 Multiply Radicals		
13.5 Rationalize the Denominator		
13.6 Pythagorean Theorem		

14. Factoring Polynomials	X	
Pre-Review		
14.1 Factoring GCF		
14.2 Factoring using the Grouping Method		
14.3 Factoring Trinomials		
14.4 Factoring Difference of Squares		
14.5 Factoring Sum/Difference of Cubes		
14.6 Solve Quadratic Equations by factoring		

15. Rational Expressions	X	
Pre-Review		
15.1 Simplifying		
15.2 Multiply/Divide		
15.3 Add/Subtract		

X = Items Mastered 100% from Pre-Review
 Initial 90% Mastery per Skill
 Students must have instructor approval before advancing to next skill.

Approval indicated by instructor's initials.

Pre-review Evaluation Linear Equations

Rules for completing the Pre-review Evaluation:

- ◆ Only use pencil.
- ◆ Show all work on this paper, and make sure your work is legible.
 - Continue your work on the back of the page if more room is needed.
 - Number your work on the back of the paper corresponding with the problem from the front.
- ◆ Place your answer to the problem on the line below each problem.
- ◆ No calculators; no assistance.
- ◆ This evaluation will determine your strengths and weaknesses in **Linear Equations**. In the areas in which you demonstrate 100% accuracy, you are allowed to skip those areas in your studies of this module. Take your time and pay attention to details. *Good Luck!*

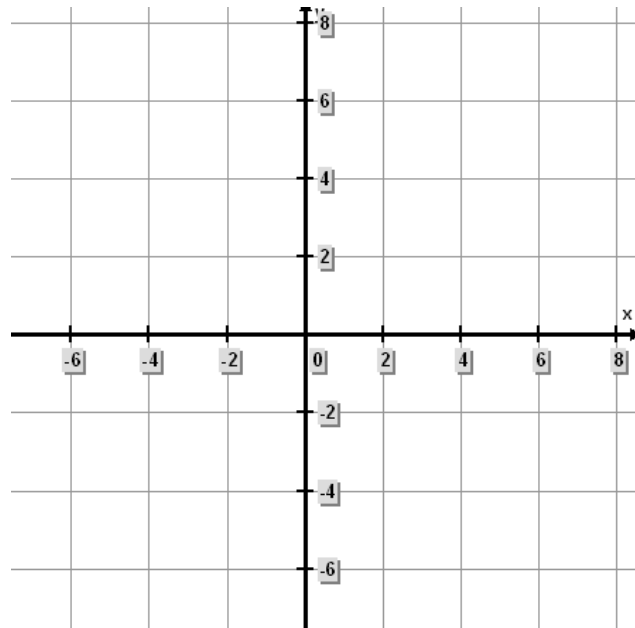
Plot X and Y Coordinates

Plot each ordered pair on the Coordinate Plane. Be sure to write the number beside the ordered pair when you plot the point.

1.) $(2,4)$ 2.) $(-4,-6)$

3.) $(-2,8)$ 4.) $(6,0)$

5.) $(0,0)$



Ordered Pair Solutions

Find the missing solution of the following:

$$8x - 4y = 16$$

6.) $(7, ?)$

7.) $(-11, ?)$

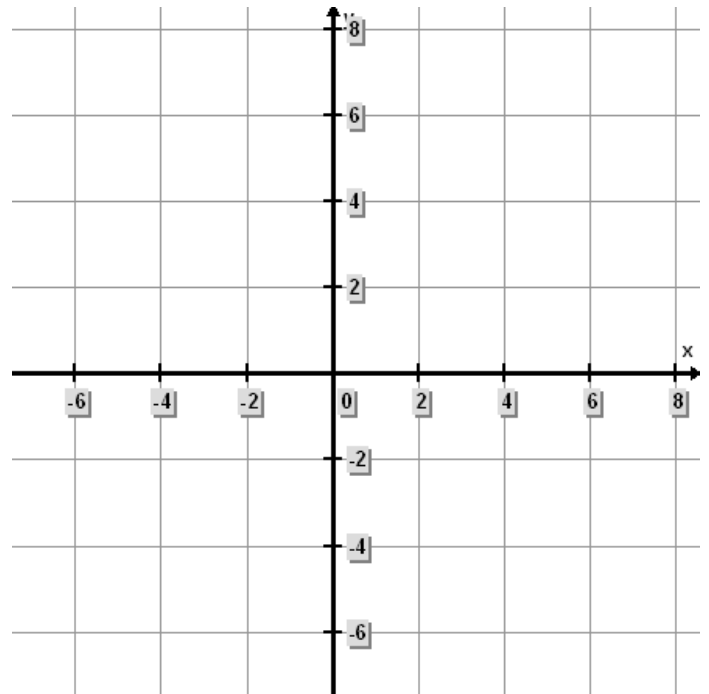
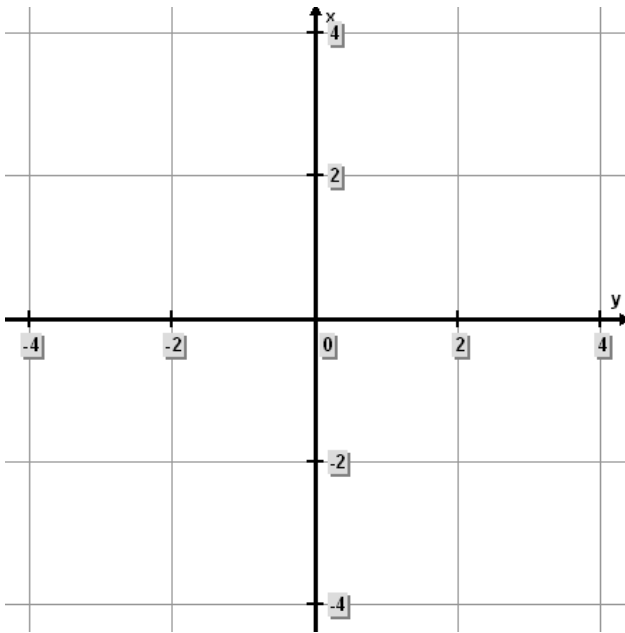
8.) $(?, 0)$

Plot X and Y Intercepts

Graph the following linear equations by finding the X and Y Intercepts.

9) $11x = -33y + 33$

10) $\frac{1}{9}x + \frac{1}{3}y = -\frac{1}{9}$

***Use the Definition of Slope***

Determine the slope between the two ordered pairs.

11.) $\left(\frac{4}{26}, \frac{3}{12}\right), \left(\frac{3}{13}, -\frac{5}{4}\right)$

12.) $(18, 21), (22, 25)$

$$13.) \left(-\frac{3}{4}, \frac{2}{5}\right), \left(-\frac{3}{4}, \frac{5}{10}\right)$$

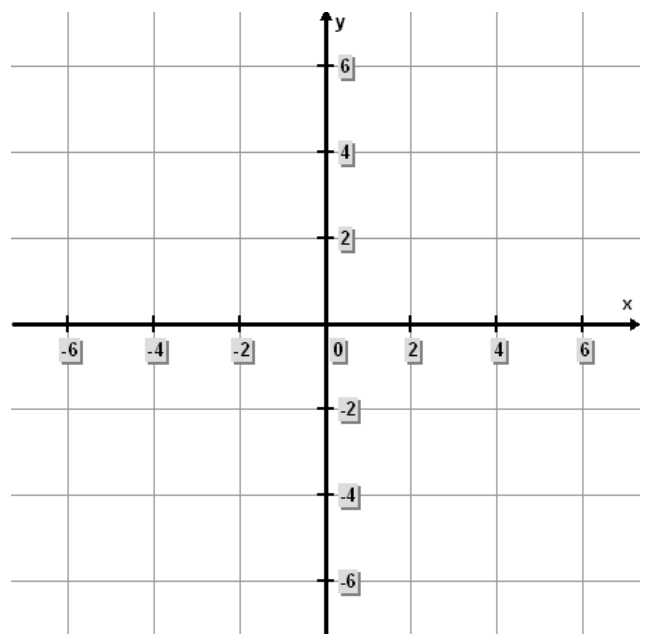
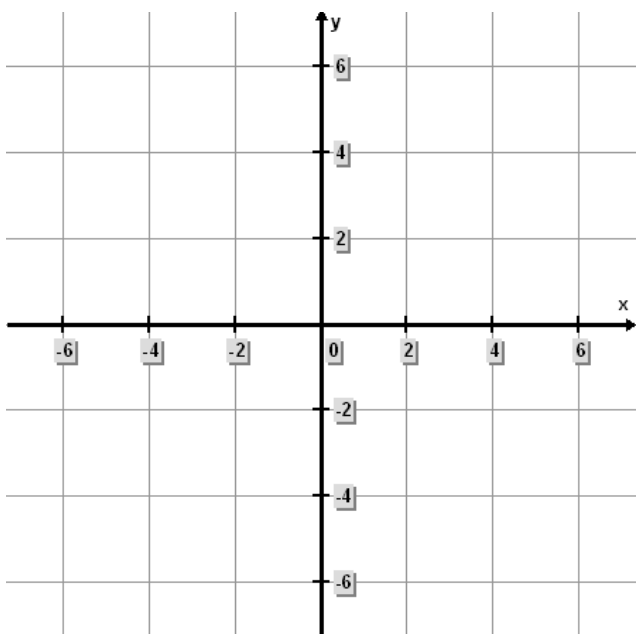
$$14.) (3, 27), (-4, 32)$$

Graph Linear Equations

Graph the following linear equations by finding the slope and y-intercept.

$$15.) x + y = 1$$

$$16.) \frac{1}{25}x = -\frac{1}{5}y - \frac{1}{25}$$



Point Slope of the Equation of a Line

Find the equation of the line through the given points.

17.) $(-2, -8), (-4, 10)$

18.) $(1, -7), (-7, 1)$

19.) $(26, -35), (16, 35)$

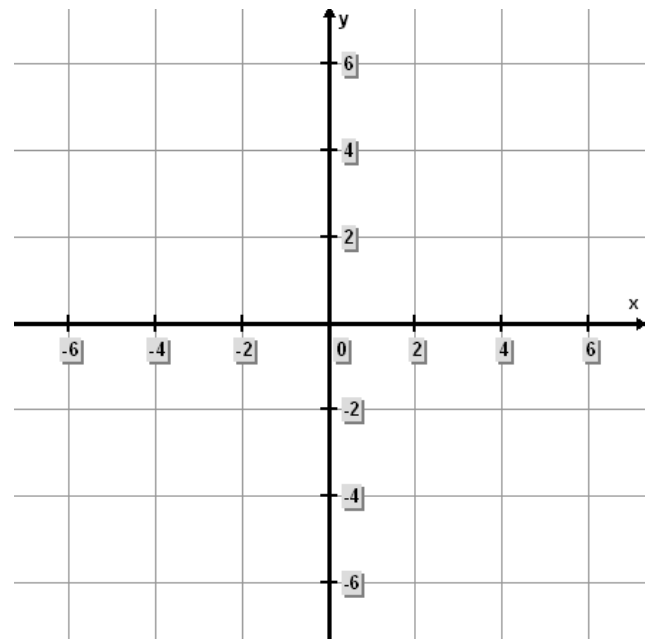
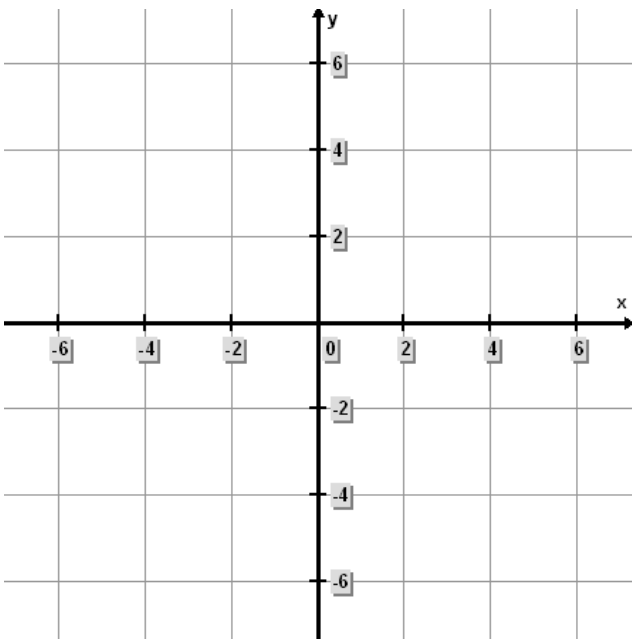
20.) $(-3, 24), (18, 17)$

Graph Inequalities

Graph the following inequalities:

21.) $y - 4 \leq -6$

22.) $y + \frac{1}{3}x \geq 2$



Practice Problems

Linear Equations – Graph Inequalities 11.7.1

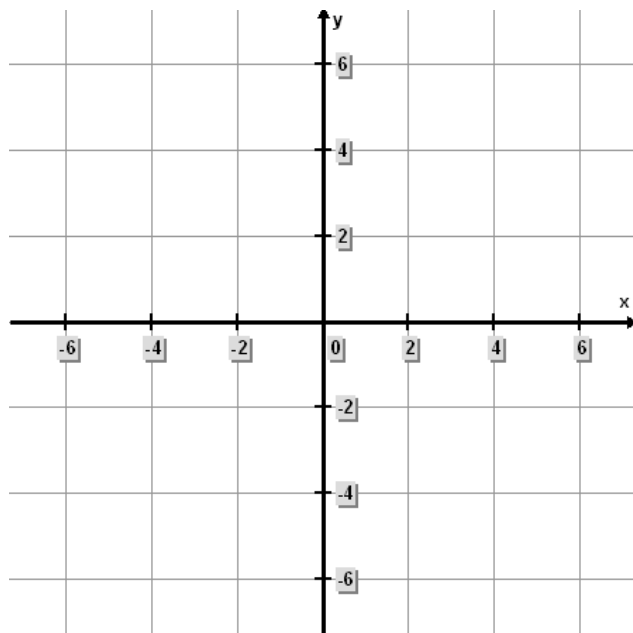
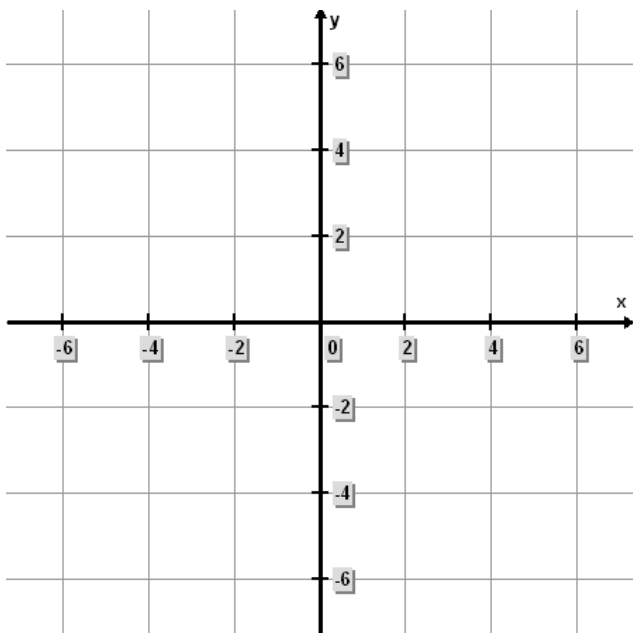
Rules for completing the Practice Problems:

- ◆ Only use pencil.
- ◆ DO NOT use calculators.
- ◆ Complete your work on this paper in a legible and orderly manner.
- ◆ After you complete your work, check your work by the answer key provided. Mark any incorrect problems and have an instructor assist you in making corrections.
- ◆ **We all learn from our mistakes!** Please do not erase any of your original work; it helps the instructor to identify your mistakes and assist you in mastering the concept which you are learning.
- ◆ When you make your corrections, work your problems on additional paper if needed. Be sure to number the problems correctly.

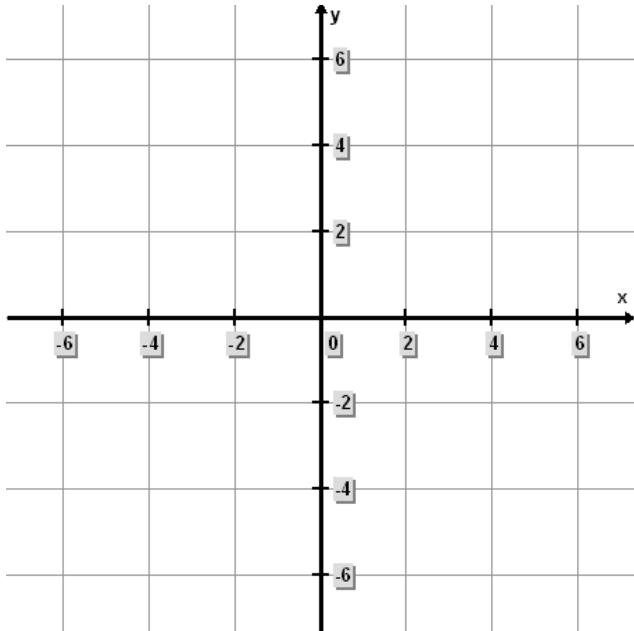
Graph the following inequalities:

1) $y \geq 6$

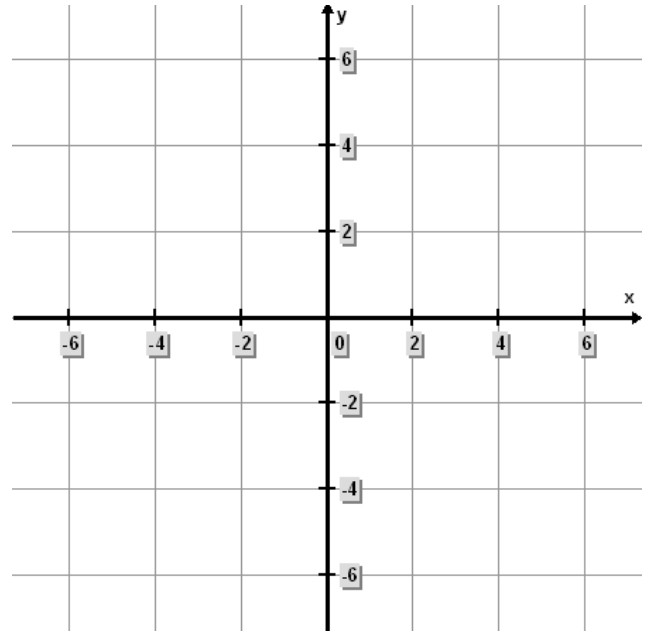
2) $x \leq 5$



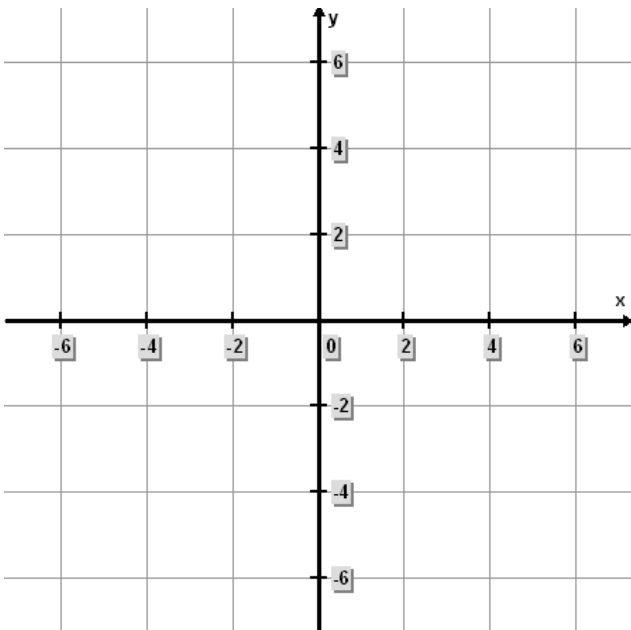
$$3) y \geq -\frac{1}{2}x + 3$$



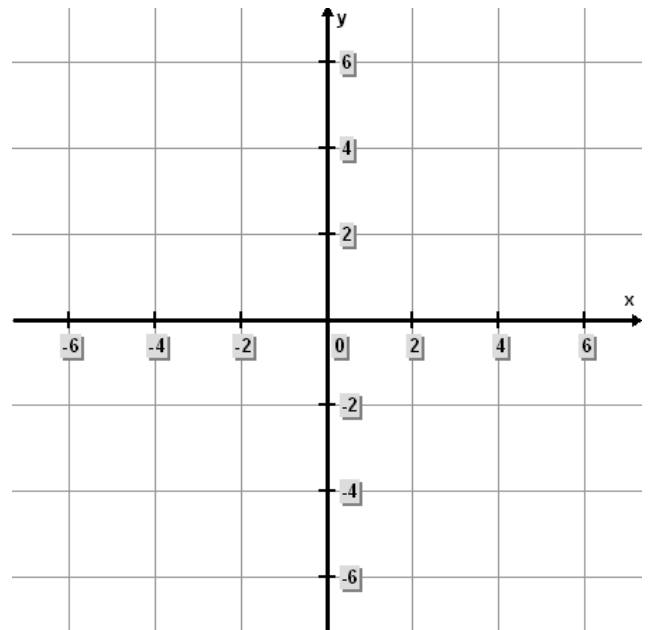
$$4) y \leq 2x - 2$$



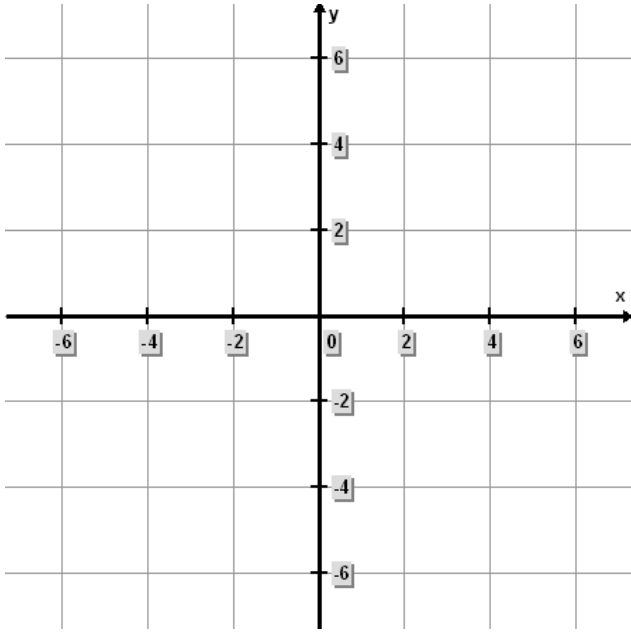
$$5) y - 1 \leq x + 3$$



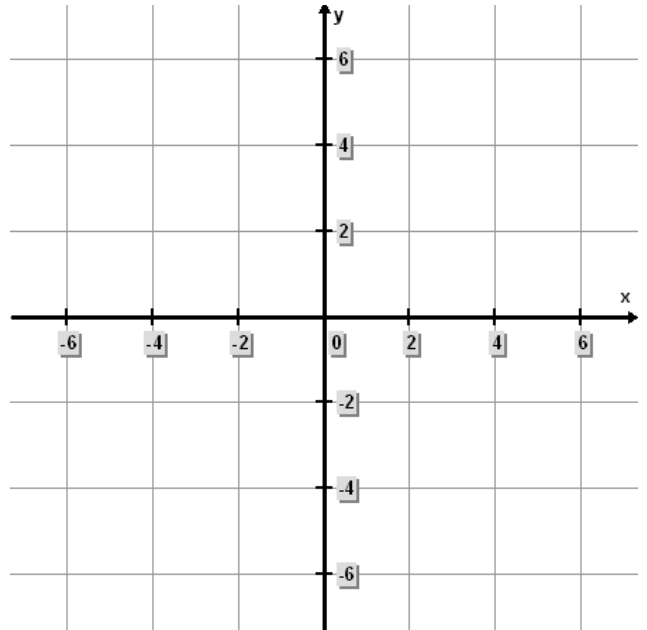
$$6) -2y \geq x + 4$$



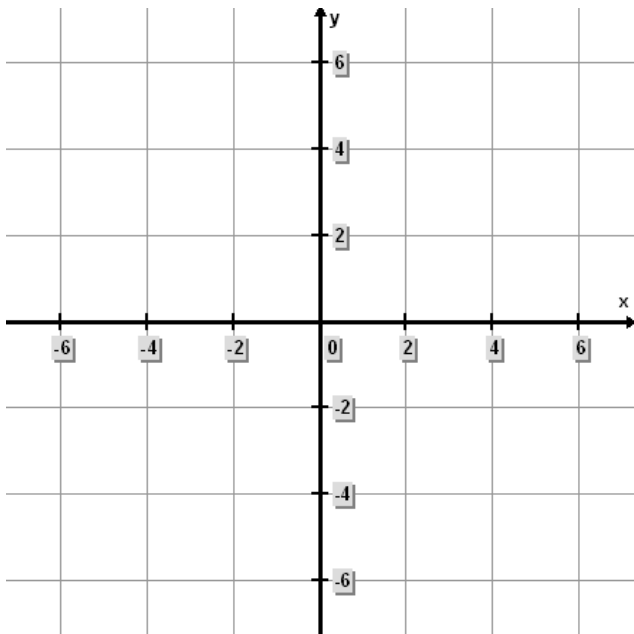
$$7) x + \frac{4}{3} = -\frac{2}{3}$$



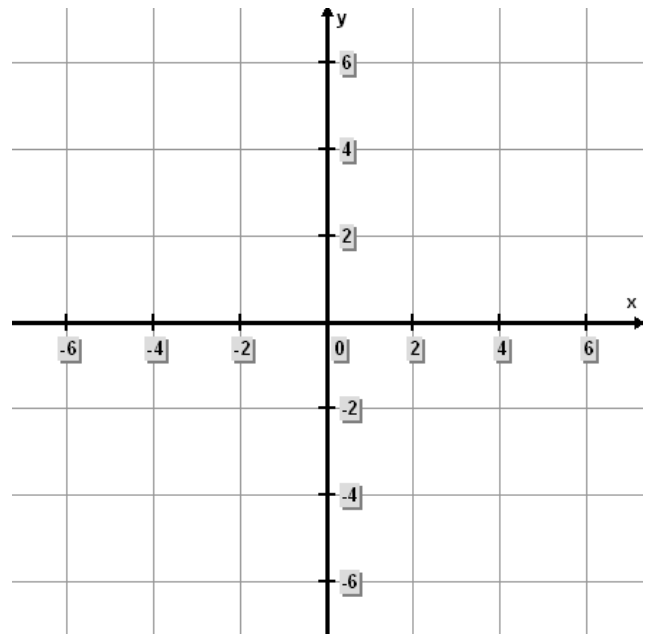
$$8) 3x + 2y \geq -6$$



$$9) y - 6 \geq -5$$



$$10) y + \frac{1}{3}x \leq 6$$



Mastery

Linear Equations – Graph Inequalities 11.7.A

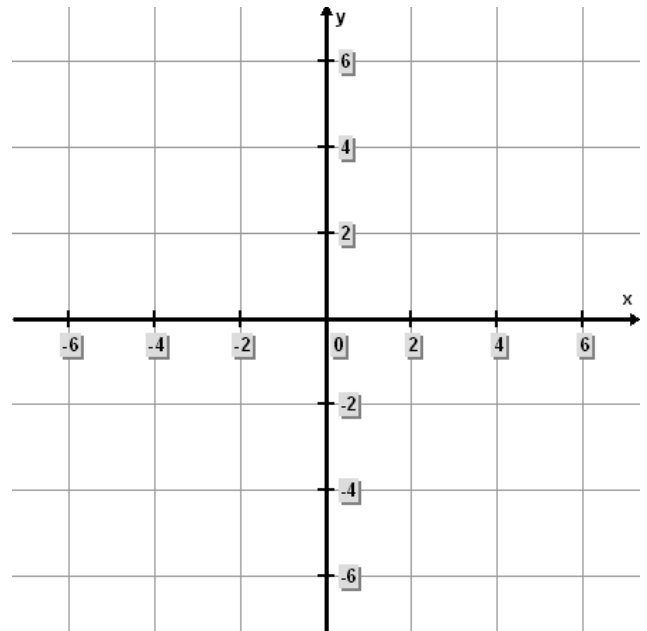
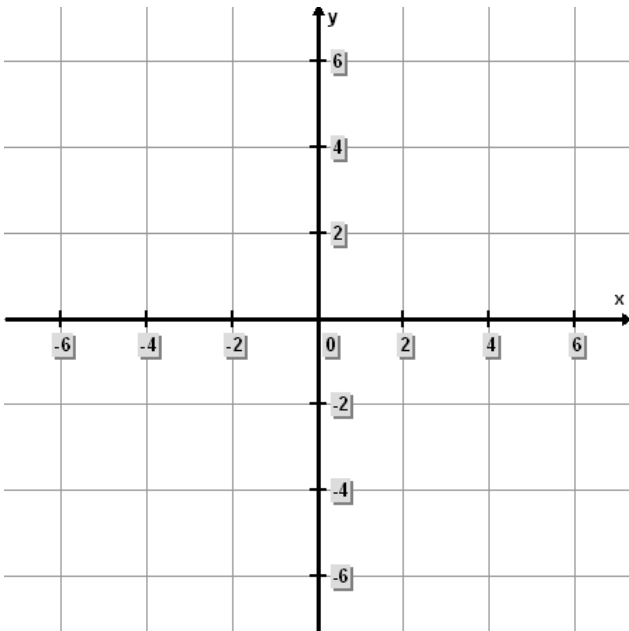
Rules for completing the Mastery Test:

- ◆ Mastery scores:
 - Form A Minimum of 90%
 - Form B Minimum of 80%
 - Forms C - J Minimum of 70%
- ◆ Only use pencil.
- ◆ Show all work on this paper, and make sure your work is legible.
 - Continue your work on the back of the page, if more room is needed.
 - Number your work on the back of the paper corresponding with the problem from the front.
- ◆ Place your answer to the problem on the line below each problem.
- ◆ The mastery consists of ten problems. Take your time, and pay attention to details. *Good Luck!*

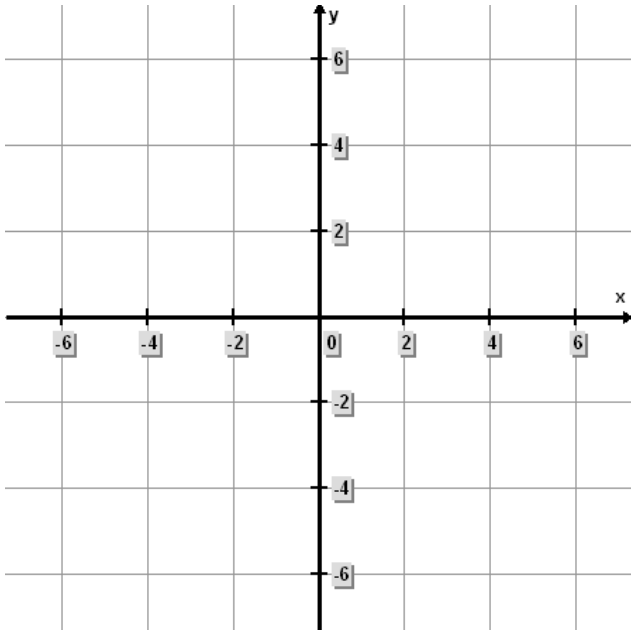
Graph the following inequalities:

1) $y \leq 3$

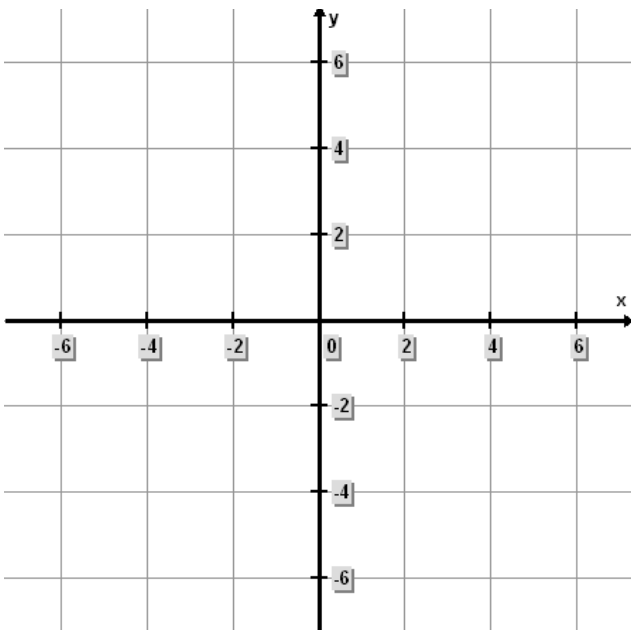
2) $x \leq 4$



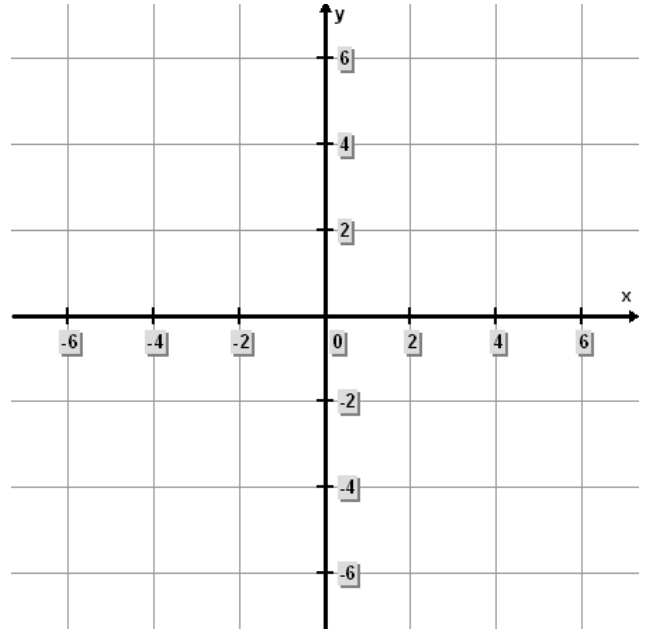
$$3) y \geq -\frac{1}{2}x + 4$$



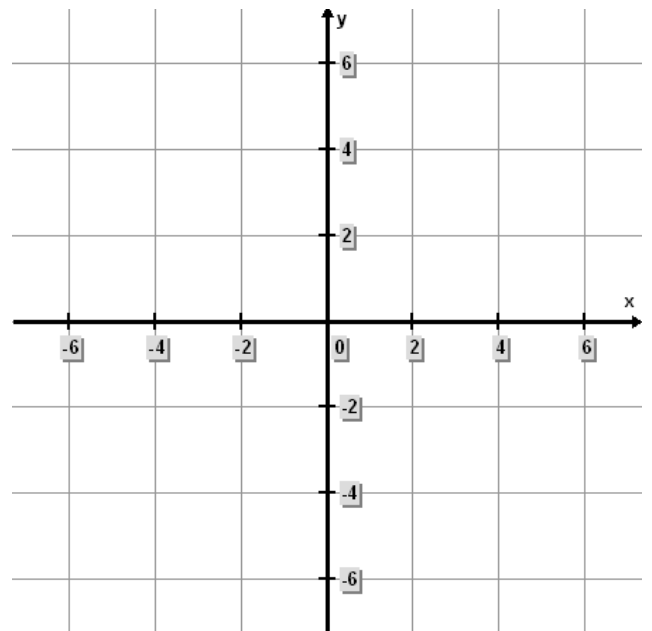
$$5) y - 3 \leq x - 1$$



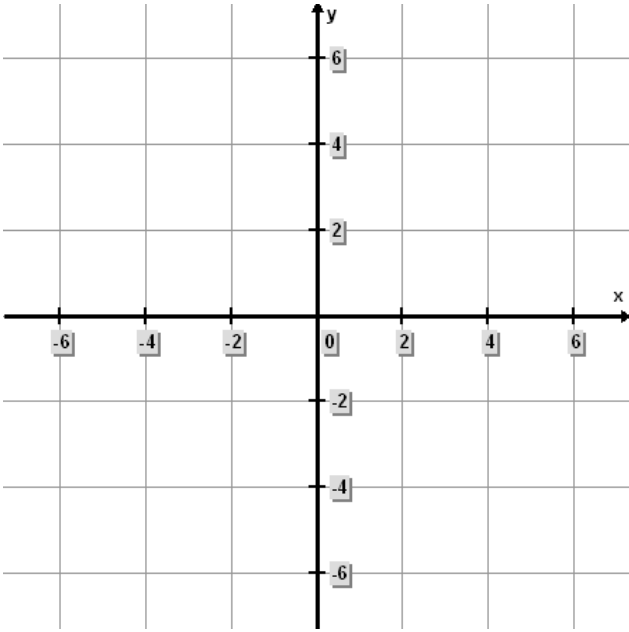
$$4) y \leq 3x - 1$$



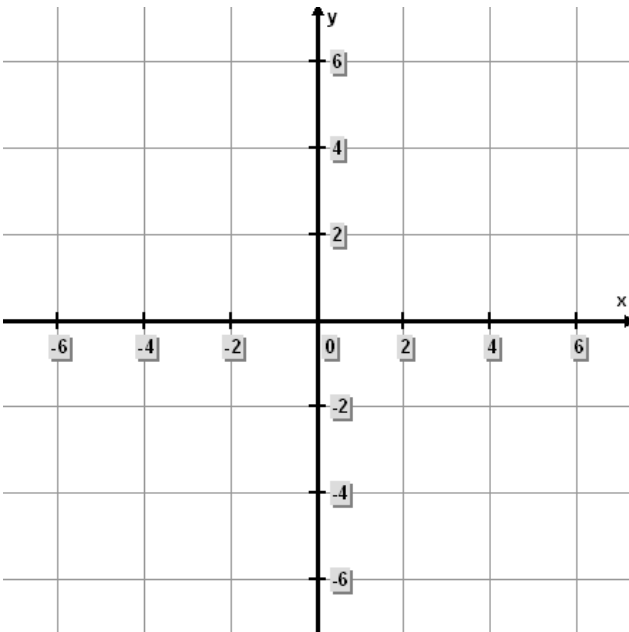
$$6) -3y \leq 6x + 3$$



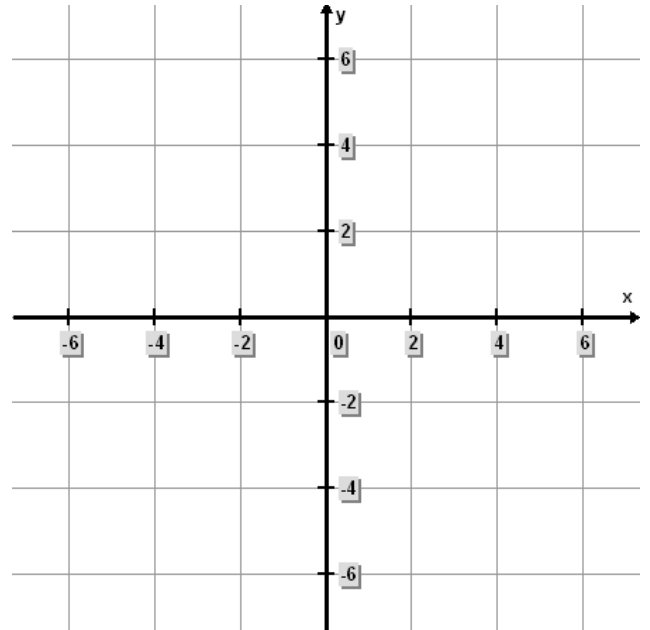
$$7) x + \frac{7}{8} = -\frac{1}{8}$$



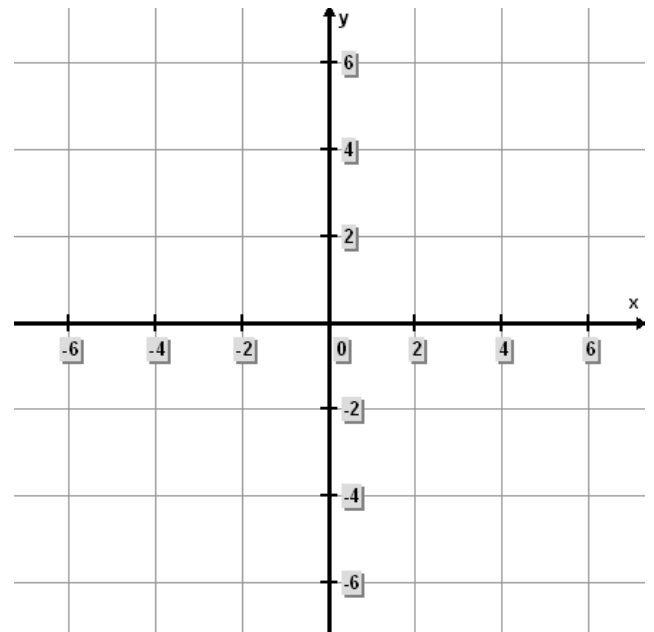
$$9) y - 2 \leq -4$$



$$8) 15x + 15y \leq -30$$



$$10) y + \frac{1}{3}x \geq 3$$



Contents

11.1 Plotting X & Y Coordinates

- Cartesian Coordinate System
- Ordered Pairs

11.2 Finding Ordered Pair Solutions

- Solution Set
- Graph the Linear Equation by Finding Ordered Pair Solutions

11.3 Finding & Graphing X and Y Intercepts

- Finding the X and Y Intercepts
- Steps for Graphing Using X and Y Intercepts

11.4 Finding Slope of Two Points

- Definition of Slope

11.5 Graphing Using the Slope and Y-Intercepts

- Slope-Intercept Form
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11.6 Point-Slope Form of the Equation of a Line

- Examples

11.7 Graphing Inequalities

- Steps to Graph a Linear Inequality
- Examples

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11.7 Graphing Inequalities

Steps to Graph a Linear Inequality

- Graph the boundary line
 - Make sure the line is dashed if the inequality is $<$ or $>$ (less than or greater than) and make sure the line is solid if the inequality is \leq or \geq (less than or equal to or greater than or equal to).
 - Test any point on one side of the line.
 - If the checkpoint satisfies the inequality, shade the region that contains the check-point. If the checkpoint does not satisfy the inequality, shade the region that does not contain the test-point.

Note: The easiest test-point to use is the origin (0,0).

Examples

Example 1:

$$y \geq -2x + 4$$

$$m = \frac{-2}{1} = \frac{\text{fall}}{\text{run}}$$

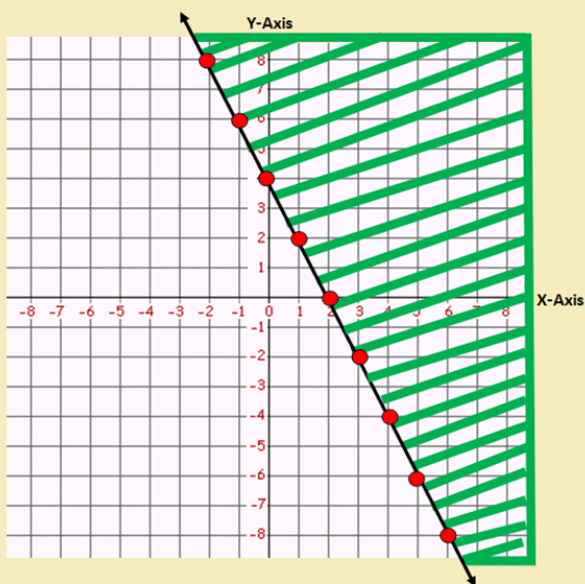
$$b = 4 \text{ or } (0,4)$$

To determine shading, use the checkpoint (0,0)

$$0 \geq -2(0) + 4$$

$$0 \geq 4 \text{ False}$$

Since the checkpoint is false, all points below the line containing the checkpoint are not a solution to the inequality. Therefore, we must shade the area opposite of the checkpoint.



Notice the line is solid because of the inequality (greater than or equal to) sign.

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Steps to Graph a
Linear Inequality
Examples

Example 2:

$$2y - 3x < 4$$

$$2y < 3x + 4$$

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

$$m = \frac{3}{2} = \frac{\text{rise}}{\text{run}}$$

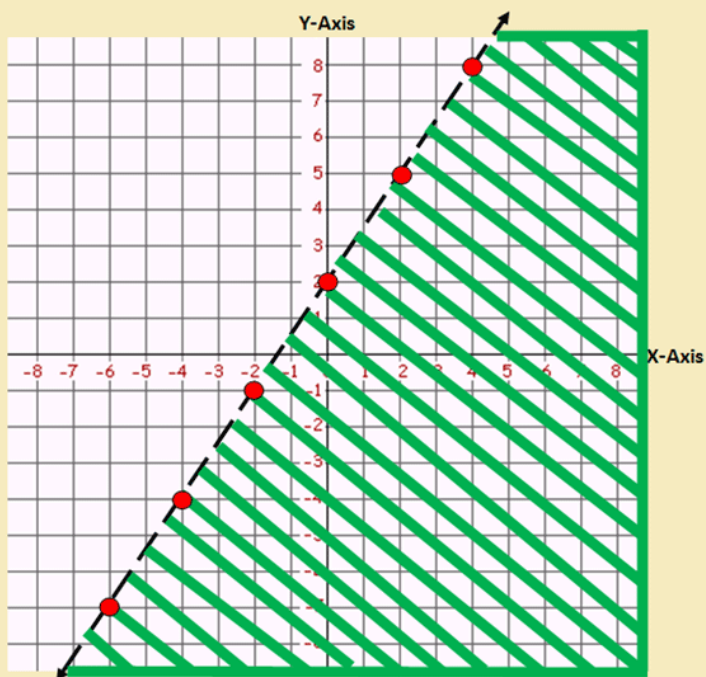
$$b = 2 \text{ or } (0, 2)$$

To determine shading, use the check-point $(0, 0)$

$$2(0) - 3(0) < 4$$

$$0 < 4 \text{ True}$$

Since the checkpoint is true, all points in the area containing the checkpoint are a solution to the inequality. Therefore, shade the area that contains the checkpoint.



Example 3:

$$-3y \leq -2x + 15$$

$$y \geq \frac{2}{3}x - 5$$
 ← To solve for y , divide each term by -3 . Therefore, the direction of the inequality changes since you divided by a negative number.

$$m = \frac{2}{3} = \frac{\text{rise}}{\text{run}}$$

$$b = -5 \text{ or } (0, -5)$$

To determine shading, use the checkpoint $(0,0)$

$$-3(0) \leq -2(0) + 15$$

$$0 \leq 15 \quad \text{True}$$

Since the checkpoint is true, all points in the area containing the checkpoint are a solution to the inequality. Therefore, shade the area that contains the checkpoint.

