

SEND - IN ASSIGNMENT**Inequalities and Solving****Systems of Equations**

Name: _____

Teacher: _____

SCIDES
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Formula

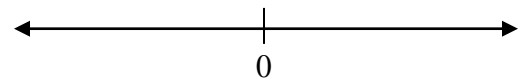
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Total _____ = _____ %
34

SHOW ALL WORK FOR FULL MARKS

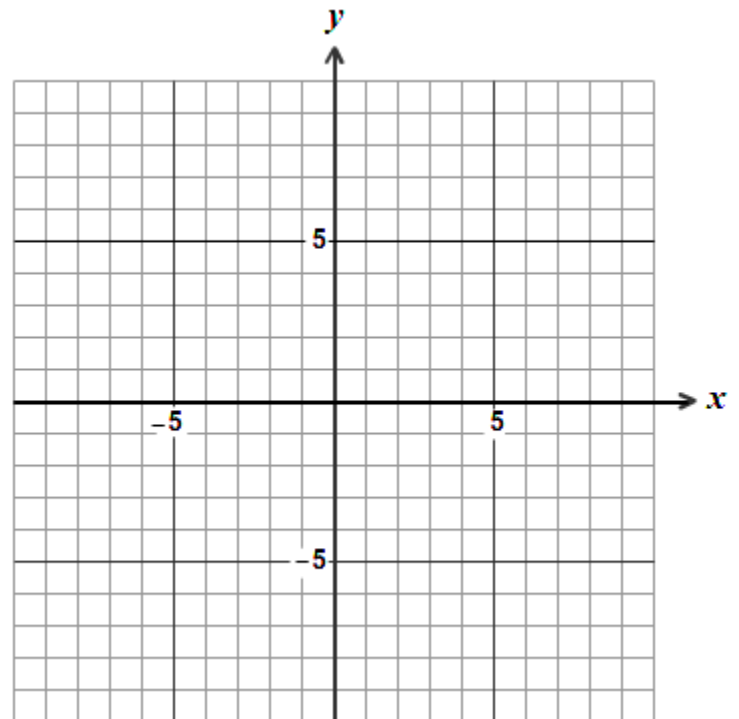
1. Solve the following and graph the solution on the number line.

$$4 - 2x > 3(x - 2)$$



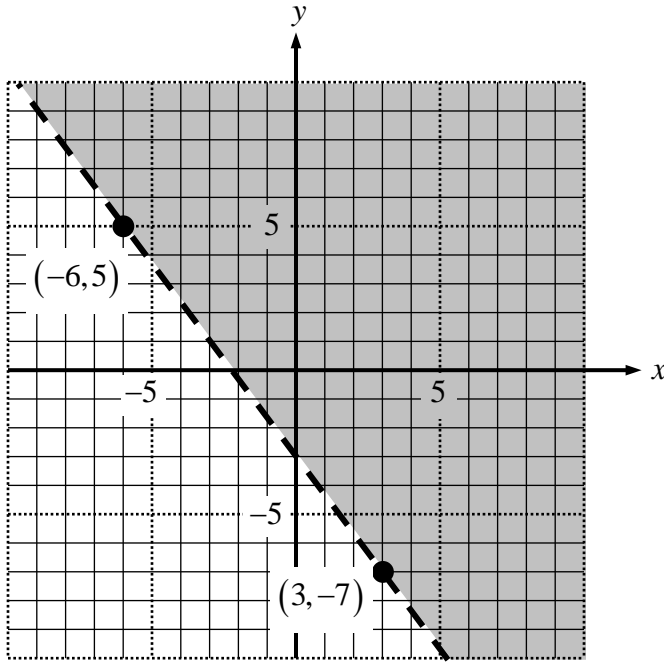
1) _____
3 marks

2. Graph the inequality: $x - 2y < 4$



3 marks

3. Write a linear inequality statement for the following graph:



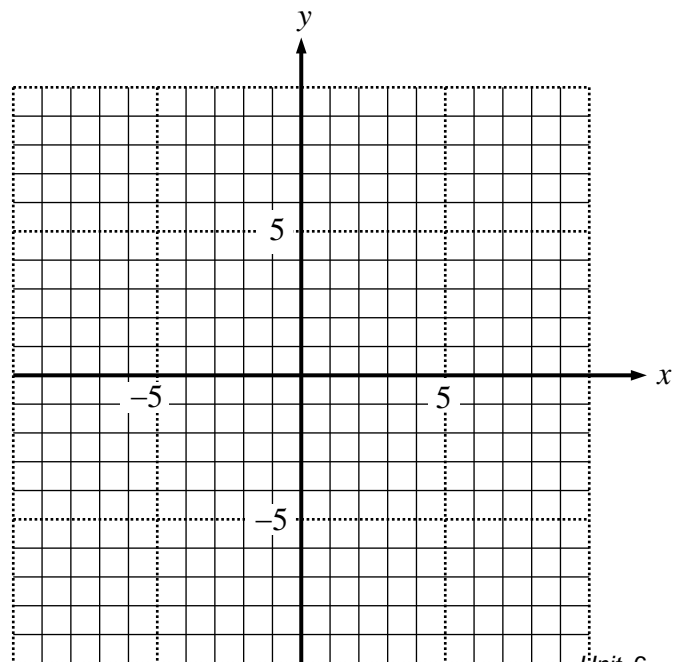
3) _____
3 marks

4. Michaela has up to \$20 to spend on bottled water and orange juice for a group hike. It cost \$2 for each bottle of water and \$4 for each bottle of orange juice.

a) Write an inequality statement for this situation.

a) _____
2 marks

b) Graph the inequality.



3 marks

- c) Can Michaela buy 5 bottles of water and 7 bottles of orange juice? Explain why or why not using the graph to justify your answer.

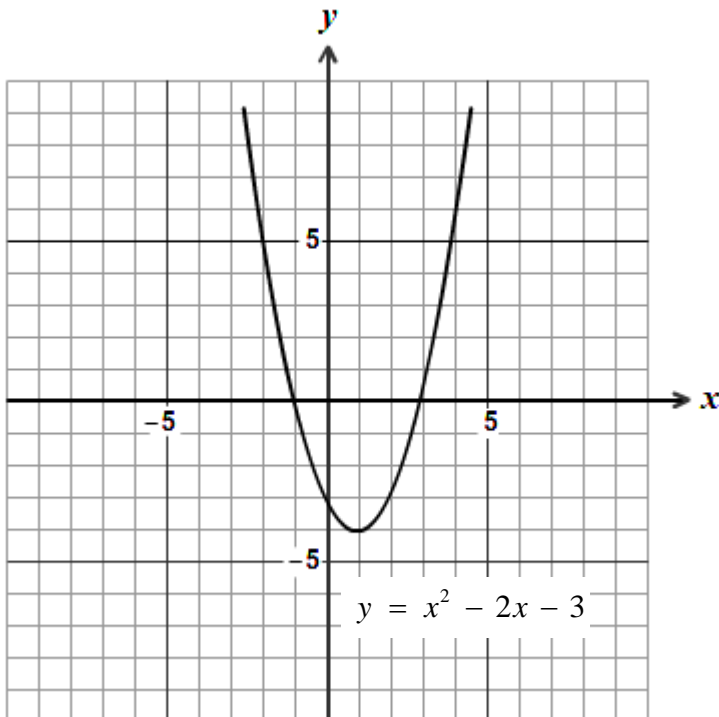
c) _____

2 marks

5. Is the point $(-1, 20)$ a solution for $y \leq \frac{1}{2}(x - 5)^2 + 2$? Show work to support your answer for full marks.

5) _____
 2 marks

6. Given the graph of a quadratic function write the solution for the following quadratic inequality.
 $x^2 - 2x - 3 \geq 0$.

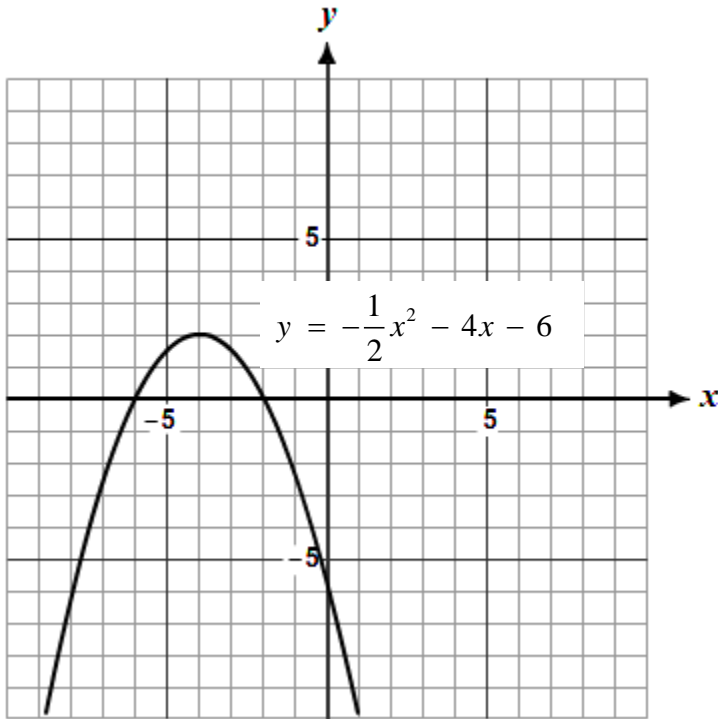


6) _____

2 marks

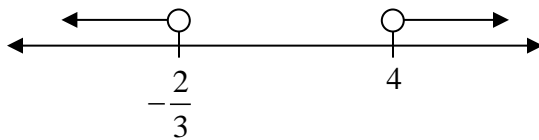
7. Given the graph of a quadratic function write the solution for the following quadratic inequality.

$$-\frac{1}{2}x^2 - 4x - 6 > 0.$$



7) _____
2 marks

8. Write a quadratic inequality in the form of $ax^2 + bx + c$ that represents the following solution.
No fractions in your answer.



8) _____
3 marks

9. Solve each of the quadratics using a number line and test points. Show your work.

a) $x^2 + 6x - 7 \leq 0$

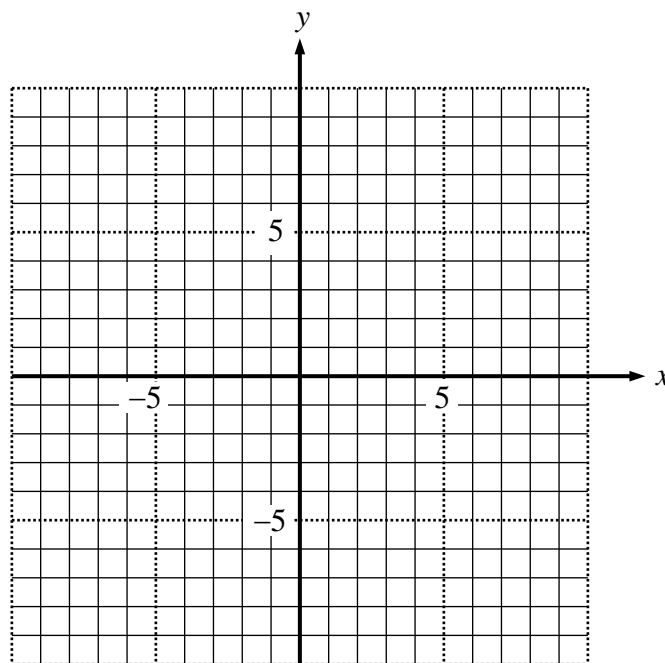
a) _____
3 marks

b) $2x^2 + 3x - 5 > 0$

b) _____
3 marks

10. Solve the following quadratic inequalities by graphing the corresponding function.

$$y \leq -2x^2 + 16x - 24$$



10) _____
3 marks