Lesson 7.3: Linear Inequalities in Two Variables

Explore Your Understanding Assignment

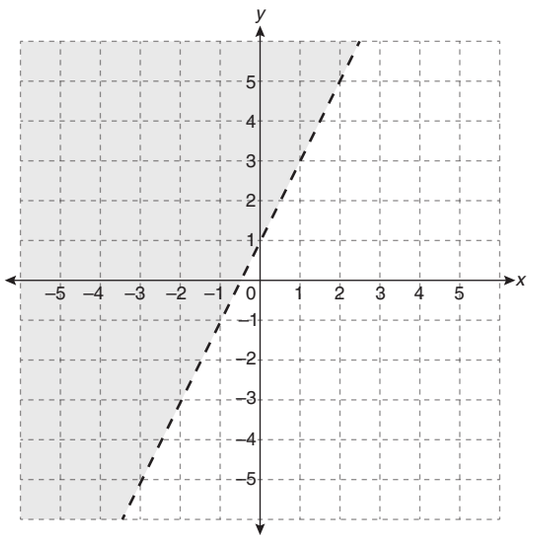
This assignment includes multiple choice and short answer questions. For multiple choice questions, select the best answer. Each is worth 1 mark. Marks assigned to short answer questions are indicated for each question. Be sure to show all necessary work.

(1) _____ 1. The ordered pair that **does not** belong to the solution set of the inequality $6x + 3y \leq 10$ is

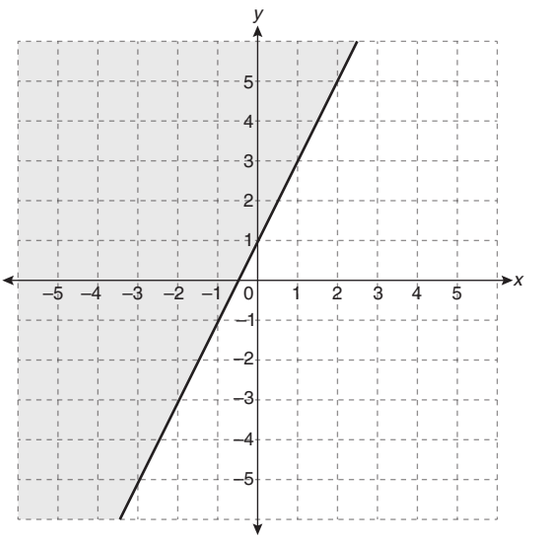
A. (1, 1)
B. (2, 3)
C. (1, –4)
D. (–3, –3)

(1)_____ 2. The graph that matches the inequality $2x + 1 > y$ is

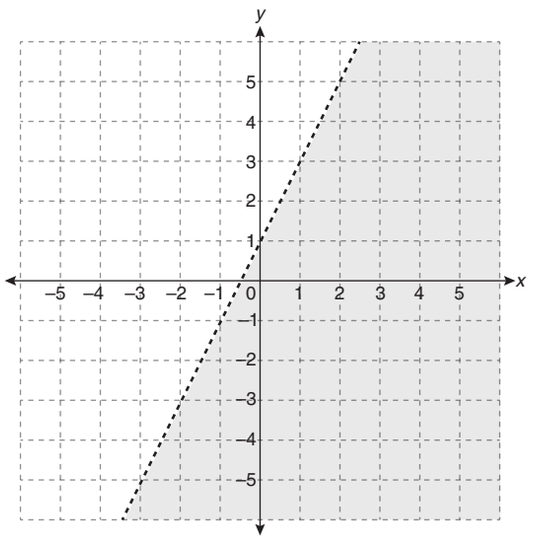
A.



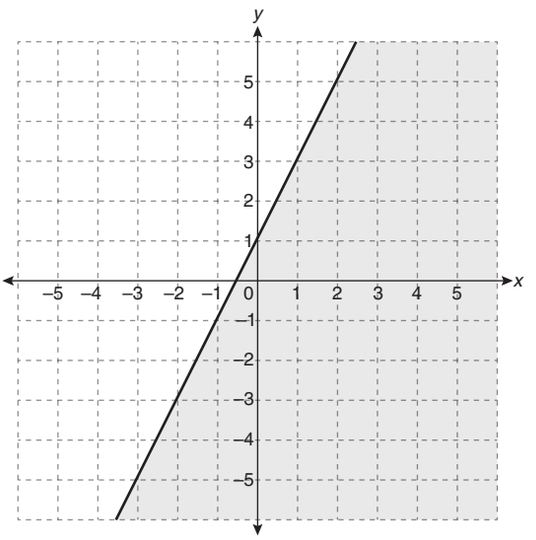
B.



C.



D.



(1) _____ 3. Consider the inequality $y \geq ax + 6$. The point (2, 1) is in the solution region when

A. $a > -\frac{5}{2}$

B. $a < -\frac{5}{2}$

C. $a \geq -\frac{5}{2}$

D. $a \leq -\frac{5}{2}$

(2) 4. Gary is a fitness trainer that makes 30 and 45 minute appointments with clients. Gary's contract allows him to make up to 30 hours of appointments in a week. State the inequality that represents all the possible combinations of appointments that Gary can make in a week. Graph the inequality.

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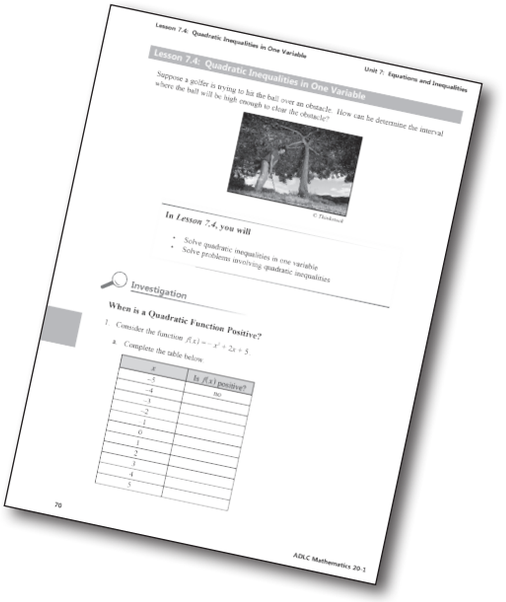
You have completed *Lesson 7.3 Explore Your Understanding Assignment*. Please review all work in *Workbook 7A* to ensure it is your best work. Submit *Workbook 7A* for marking at this time and proceed to *Lesson 7.4* in the *Module*.



Lesson 7.4: Quadratic Inequalities in One Variable

Unit 7: Equations and Inequalities

Lesson 7.4: Quadratic Inequalities in One Variable

Suppose a golfer is trying to hit the ball over an obstacle. How can he determine the interval where the ball will be high enough to clear the obstacle?

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In Lesson 7.4, you will

- Solve quadratic inequalities in one variable
- Solve problems involving quadratic inequalities

Investigation

When is a Quadratic Function Positive?

1. Consider the function $f(x) = -x^2 + 2x + 5$

   a. Complete the table below

x	Is $f(x)$ positive?
−5	no
−4	
−3	
−2	
−1	
0	
1	
2	
3	
4	
5	

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