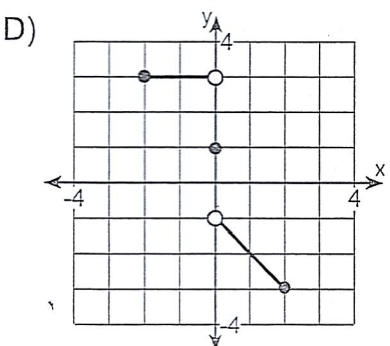
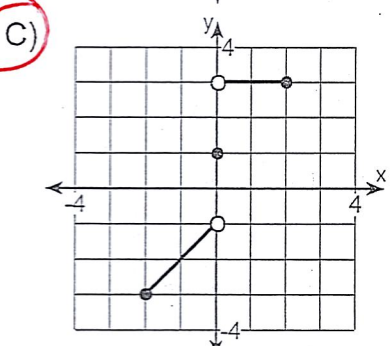
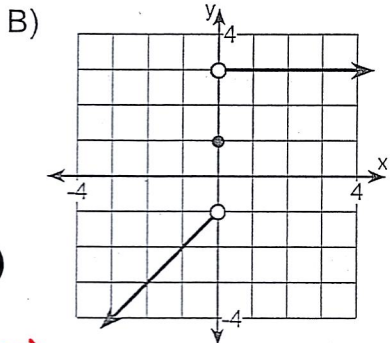
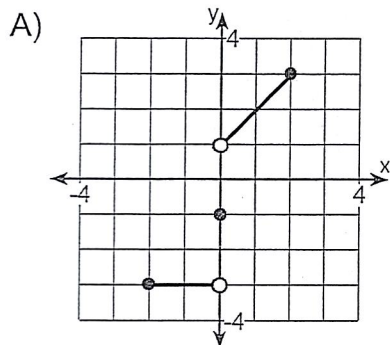


Algebra 1B

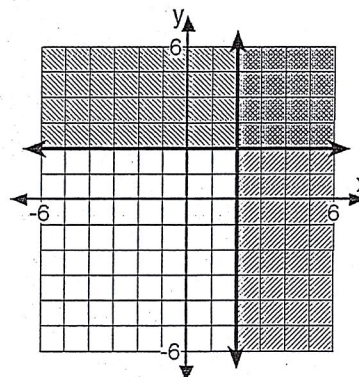
Chapter 4 Unit Review

Which one of the following graphs is the

graph of  $f(x) = \begin{cases} x - 1 & \text{if } -2 \leq x < 0 \\ 1 & \text{if } x = 0 \\ 3 & \text{if } 0 < x \leq 2 \end{cases}$  ?

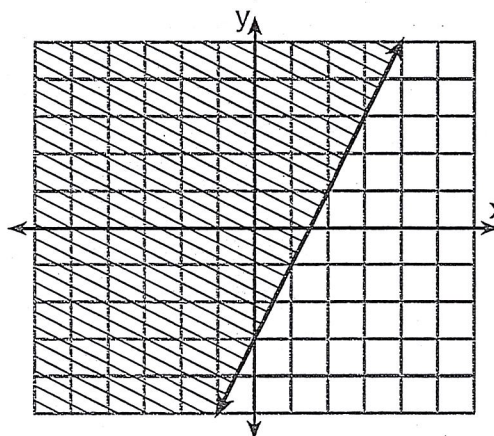


2) Which system of inequalities represents the shaded area in the graph below?



- A)  $y \leq 2$  and  $x \geq 2$       C)  $y \geq 2$  and  $x \leq 2$   
B)  $y \geq 2$  and  $x \geq 2$       D)  $y \leq 2$  and  $x \leq 2$

3) Which one of the following inequalities is represented by the graph below?

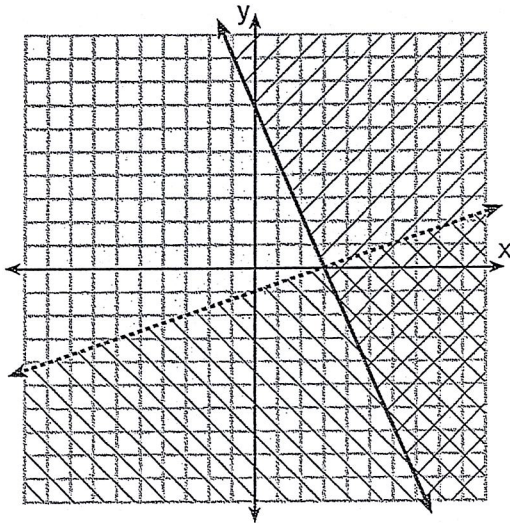


- A)  $y \leq 2x - 3$       C)  $y \leq -3x + 2$   
 B)  $y \geq -3x + 2$       D)  $y \geq 2x - 3$

4) Joy wants to buy strawberries and raspberries to bring to a party. Strawberries cost \$1.60 per pound and raspberries cost \$1.75 per pound. If she only has \$10 to spend on berries, which inequality represents the situation where she buys  $x$  pounds of strawberries and  $y$  pounds of raspberries?

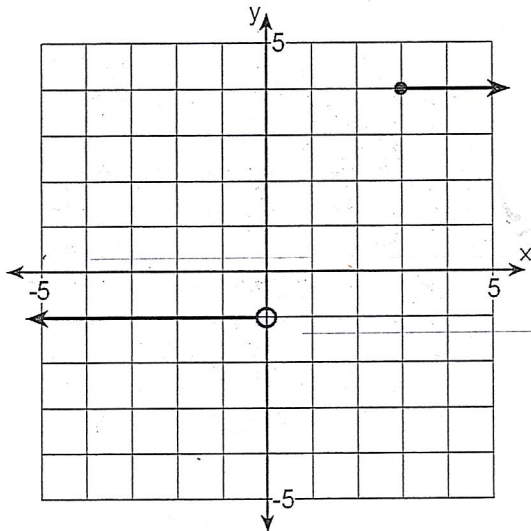
- A)  $1.60x + 1.75y \leq 10$       C)  $1.75x + 1.60y \geq 10$   
 B)  $1.60x + 1.75y \geq 10$       D)  $1.75x + 1.60y \leq 10$

- 5) What is one point that lies in the solution set of the system of inequalities graphed below?



- A)  $(-3, 5)$  **B)  $(7, 0)$**  C)  $(0, 7)$  D)  $(3, 0)$

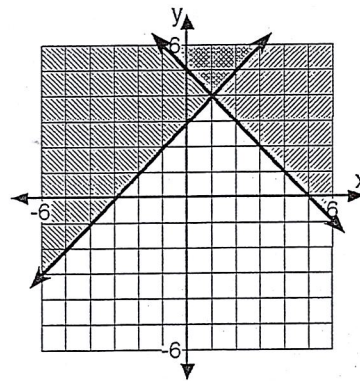
- 6) Which one of the following describes the graph shown?



A)  $f(x) = \begin{cases} x - 1 & \text{if } x < 0 \\ x + 4 & \text{if } x \geq 3 \end{cases}$  ~~C)  $f(x) = \begin{cases} -1 & \text{if } y > 0 \\ 4 & \text{if } y \leq 3 \end{cases}$~~

B)  $f(x) = \begin{cases} 0 & \text{if } x > -1 \\ 3 & \text{if } x \leq 4 \end{cases}$  **D)  $f(x) = \begin{cases} -1 & \text{if } x < 0 \\ 4 & \text{if } x \geq 3 \end{cases}$**

- 7) Which system of inequalities represents the shaded area in the graph below?



A)  $y \geq x + 3$  and  $y \leq -x + 5$

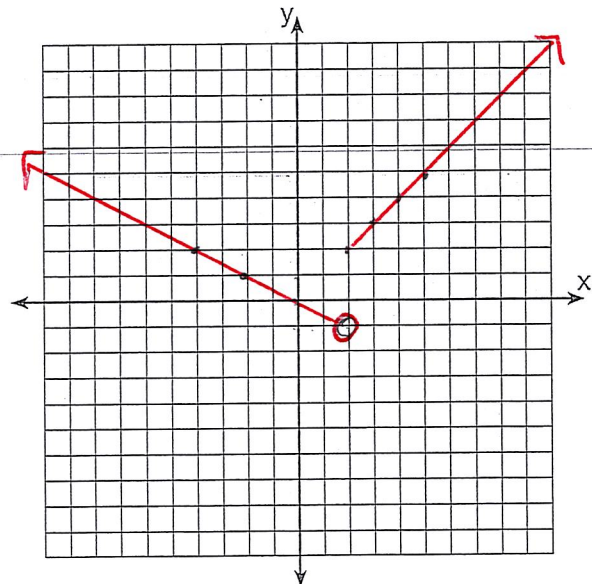
B)  $y \leq x + 3$  and  $y \geq -x + 5$

**C)  $y \geq x + 3$  and  $y \geq -x + 5$**

D)  $y \leq x + 3$  and  $y \leq -x + 5$

- 8) On the set of axes below, graph the piecewise function:

$$f(x) = \begin{cases} -\frac{1}{2}x, & x < 2 \\ x, & x \geq 2 \end{cases}$$



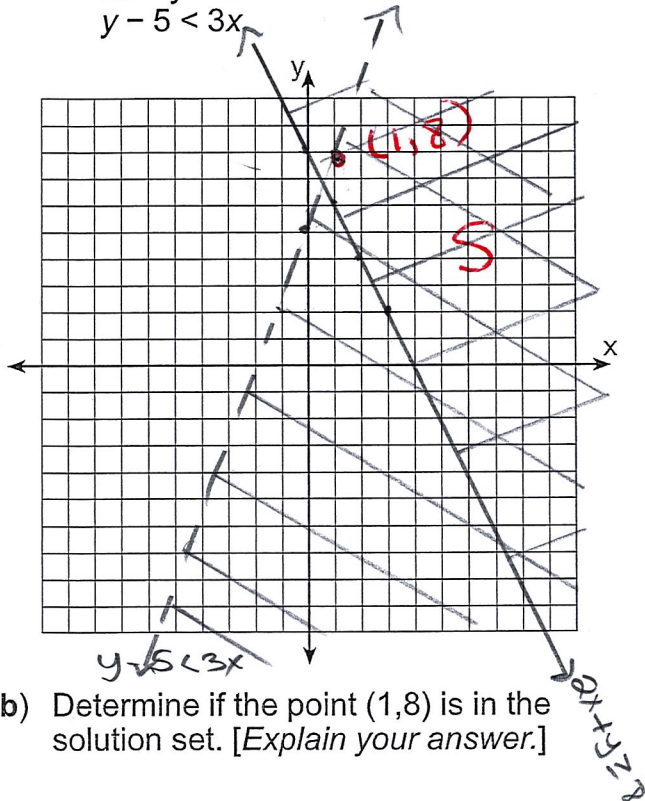


9)

- (a) On the set of axes below, graph the following system of inequalities:

$$2x + y \geq 8$$

$$y - 5 < 3x$$



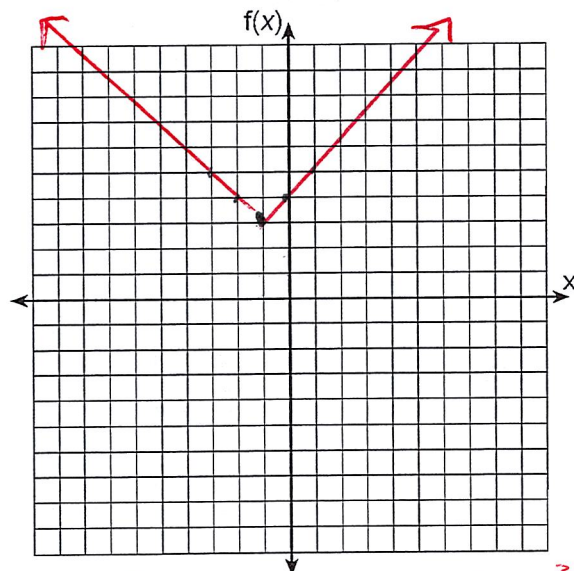
- (b) Determine if the point (1,8) is in the solution set. [Explain your answer.]

(1,8) not a solution  
it is on the dashed  
line  $y - 5 < 3x$ .

Question 10 refers to the following:

Graph the given absolute value function on a coordinate grid. State the domain and the range of the function.

10)  $f(x) = |x + 1| + 3$



$$D = \{\text{all real numbers}\}$$

$$R = \{y \geq 3\}$$

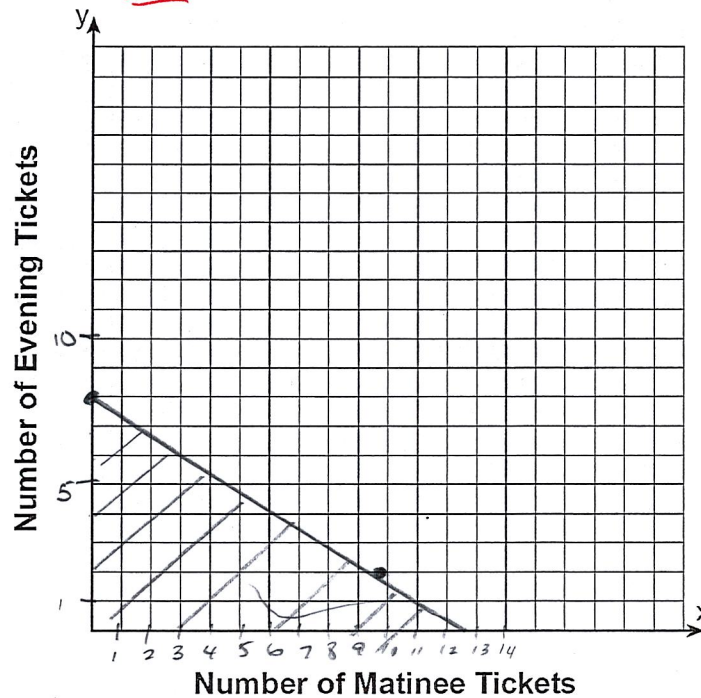
- 11) Does the point (5,3) belong to the graph of  $y \leq x + 2$ ? [Explain why or why not.]

yes - explain why

- 12) Miranda received a movie gift card for \$100 to her local theater. Matinee tickets cost \$7.50 each and evening tickets cost \$12.50 each.

(a) If  $x$  represents the number of matinee tickets she could purchase, and  $y$  represents the number of evening tickets she could purchase, write an inequality that represents *all* the possible ways Miranda could spend her gift card on movies at the theater.

(b) On the set of axes below, graph this inequality.



$$7.5x + 12.5y \leq 100$$

- (c) What is the maximum number of matinee tickets Miranda could purchase with her gift card?  
[Explain your answer.]

*use the graph to explain*