EXTRA PRACTICE

$$\frac{1}{5}\left(7-3b\right)>2$$

1. Which of the following gives all values of b that satisfy the inequality above?

A) $b<-1$

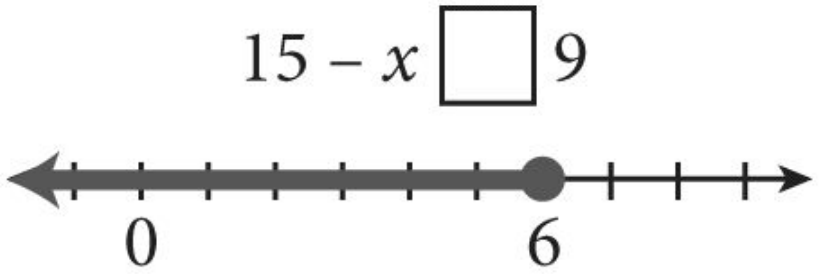
B) $b > -1$

C) $b < 1$

D) $b > 1$

2. If $n - 3 > 8$ and $n + 1 < 14$, then which of the following could be a value for n ?

A) 11
B) 12
C) 13
D) 14



3. The number line above shows the solution to the inequality. Which of the following symbols would make the statement true?

A) <

B) >

C) ≤

D) ≥

Electric Company	Price (cents per kWh)
Company A	15.2
Company B	17.4
Company C	16.5
Company D	14.8

4. A kilowatt-hour is a unit of measure for consumable energy. A kilowatt-hour, written kWh, is equivalent to using 1,000 watts of power in 1 hour. The table above shows the per-kWh rates

charged by several electric companies in New England. According to the United States Energy Information Administration, an average household in New England uses between 530 and 730 kWh of energy per month. Which inequality represents how much less in energy costs a household would pay per month if it uses Company D as its energy supplier, than if it uses Company B?

A) $x \leq 0.026$

B) $0.148 \leq x \leq 0.174$

C) $13.78 \leq x \leq 18.98$

D) $29.60 \leq x \leq 34.80$

5. A shipping company employee is in charge of packing cargo containers for shipment. He knows a certain cargo container can hold a maximum of 50 microwaves or a maximum of 15 refrigerators. Each microwave takes up 6 cubic feet of space, and each refrigerator takes up 20 cubic feet. The cargo container can hold a maximum of 300 cubic feet. The employee is trying to figure out how to pack a container containing both microwaves and refrigerators. Which of the following systems of inequalities can the employee use to determine how many of each item (microwaves, m, and refrigerators, r) he can pack into one cargo container?

A) $\begin{cases} m \leq 6 \\ r \leq 20 \\ 50m + 15r \leq 300 \end{cases}$

B) $\begin{cases} m \leq 50 \\ r \leq 15 \\ m + r \leq 300 \end{cases}$

C) $\begin{cases} m \leq 50 \\ r \leq 15 \\ 6m + 20r \leq 300 \end{cases}$

D) $\begin{cases} m \leq 50 \\ r \leq 15 \\ 50m + 15r \leq 300 \end{cases}$

6. If $-\frac{2}{5} < 3k - 4 < \frac{6}{7}$, then which of the following is not a possible value for $-6k + 8$?

A) $-\frac{5}{7}$

B) $\frac{1}{7}$

C) $\frac{1}{3}$

D) $\frac{4}{3}$

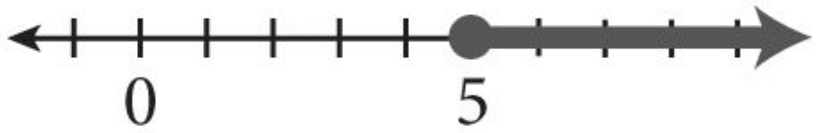
$$\begin{cases} y \leq \frac{2}{3}x + 1 \\ 2x - 3y \leq 12 \end{cases}$$

7. Which of the following best describes the solution set for the system of inequalities above?

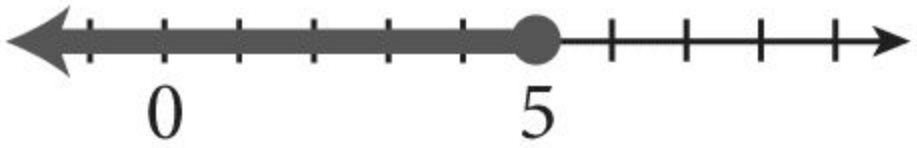
A) The system has no solution.
B) The solution set consists of a single point.
C) The solution set consists of all real numbers.
D) The solution set consists of all points that lie between the boundary lines.

8. Marco is paid $80 per day plus $15 per hour for overtime. If he works five days per week and wants to make a minimum of $520 this week, what is the fewest number of hours of overtime he must work?

9. Which of the following represents the solution to the inequality $2(4x - 1) > 5x + 13$?

A) 

B)



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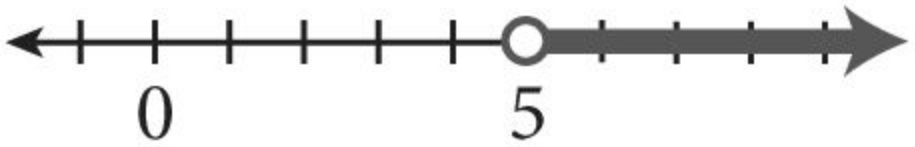


D)

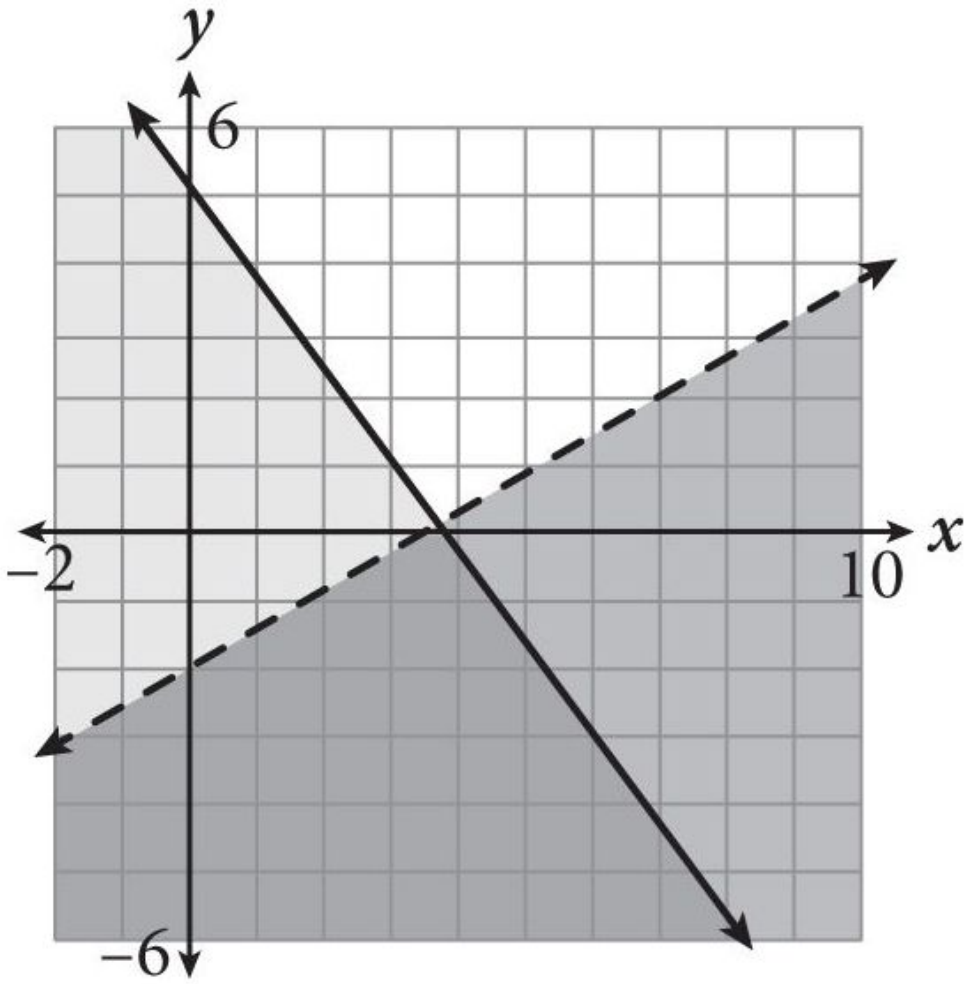
10. Which of the following best describes the graphical solution to the inequality $y < -2x + 3$?

A) A dashed boundary line that rises from left to right, with shading in the half-plane below the boundary line

B) A dashed boundary line that falls from left to right, with shading in the half-plane below the boundary line

C) A dashed boundary line that falls from left to right, with shading in the half-plane above the boundary line

D) A solid boundary line that falls from left to right, with shading in the half-plane below the boundary line



11. The figure above shows the solution set for the system $\begin{cases} y < \frac{3}{5}x - 2 \\ y \leq -\frac{4}{3}x + 5 \end{cases}$. Which of the following is not a solution to this system?

A) $(-1, -4)$

B) $(1, -1)$

C) $(4, -1)$

D) $(6, -3)$

$$\begin{cases} y < 2x - 3 \\ y \boxed{?} mx + 3 \end{cases}$$

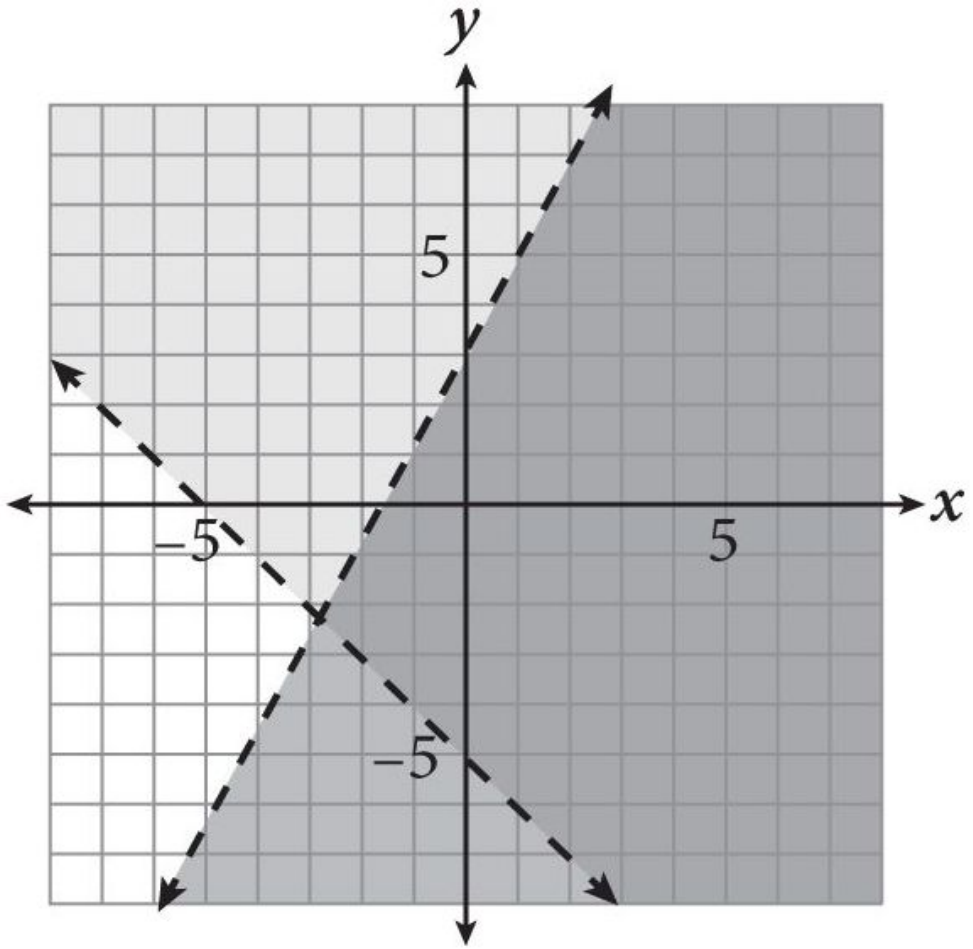
12. Which value of m and which symbol result in the system of inequalities shown above as having no solution?

A) $m = -2; >$

B) $m = -\frac{1}{2}$; <

C) $m = 2$; >

D) $m = 2$; <



13. The figure above shows the solution for the system of inequalities $\begin{cases} y > -x - 5 \\ y < 2x + 3 \end{cases}$. Suppose (a, b) is a solution to the system. If $a = 0$, what is the greatest possible integer value of b ?