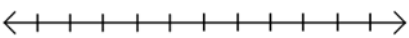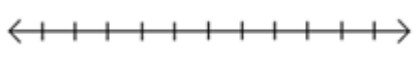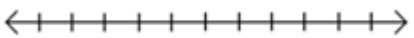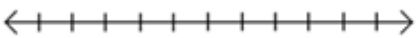Name: _____ Hour: _____

Solve each inequality. Graph the solutions.

1. $8 < x + 2$ **2.** $7x < -49$

3. $\dfrac{x}{5} \leq -6$ **4.** $x - 6 \geq -3$

5. $11 + x < 4$ **6.** $-4x \leq 20$

7. Is each number a solution of $y + 8 \leq 5$?

    a. -3 **b.** 0 **c.** $-\dfrac{13}{4}$ **d.** -2.9

8. Is each number a solution of $-7x < -21$?

    a. 3 **b.** 0 **c.** $\dfrac{8}{3}$ **d.** 4
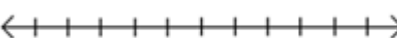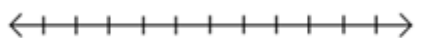
Write and solve an inequality to model each situation.

  9. Twenty-four is less than five-eighths of a number x.

10. Eight less than a number x is at least 17.

Solve each inequality. Graph the solutions.

11. $3x + 2 > 5x - 8$ **12.** $3x + 11 \leq 8$

13. $10 - 3x \leq 7x$ **14.** $2(4x - 1) \geq 62$

15. Writing Explain how to solve an inequality if the coefficient of the variable term is negative.

<u>Directions</u>: Complete.

#1   You wonder if you can save money by using your cell phone for all long distance calls. Long distance calls cost $.05 per minute on your cell phone. The basic plan for your cell phone is $29.99 each month. The cost of regular phone service with unlimited long distance is $39.99. Define a variable and write an inequality that will to find the number of long-distance call minutes you may make and still save money.
Inequality:

Solution:

#2   The unit cost for a piece of fabric is $4.99 per yard. You have $30 to spend on material. How many feet of material could you buy? Define a variable and write an inequality to solve this problem.
Inequality:

Solution:

#3   A company sells parts in both the United States and in Europe. The company must report its product's size in both the metric system and in inches. If a product is reported to be no more than 12 inches long, how long is it in centimeters? Assume 1 inch = 2.54 cm.
Inequality:

Solution: