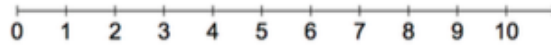
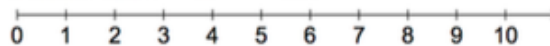


## Inequalities Day 2 HW

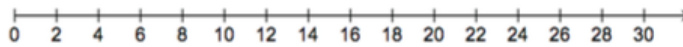
1. Ian needs to save at least \$85 for a new pair of basketball shoes. He has \$25 in his piggy bank and can save \$12 from his allowance each week. How many weeks will Ian need to save to earn at least \$85? Write and solve an inequality. Graph the solution.



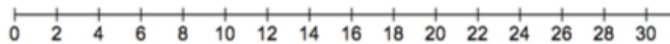
2. The temperature in the ice rink must stay below 50 degrees Fahrenheit. This morning the temperature was 71 degrees. The ice rink runs a cooling device that can decrease the temperature by 3.5 degrees every hour. How many hours will it take for the temperature to fall below 50 degrees? Write and solve an inequality. Graph the solution.



3. Zoe and her dad go on a hot air balloon ride over the weekend. In order to remain safe, they cannot exceed an elevation of 450 feet. If they start at an elevation of 120 feet and rise at a rate of 15 feet per minute, how many minutes can they continue to rise? Write and solve an inequality. Graph the solution.



4. The volleyball team at Meigs raised \$350 to buy a new net and some volleyballs. The net costs \$180 and each ball costs \$17. If the team does not want to exceed the amount of money they raised, how many volleyballs can they buy? Write and solve an inequality. Graph the solution.



5. Martha has gotten a 79 and a 90 on her two math quizzes so far. She also took one test, which counts triple (is worth the same as three quizzes), and got an 85. Martha has another quiz coming up. What does she need to get on this quiz if she wants to average at least an 87? Write and solve an inequality.

6. **Explain the Error** Sven is trying to find the maximum amount of time he can spend practicing the five scales of piano music he is supposed to be working on. He has 60 minutes to practice piano and would like to spend at least 35 minutes playing songs instead of practicing scales. So, Sven sets up the following inequality, where  $t$  is the number of minutes he spends on each scale, and solves it.

$$\begin{aligned}60 - 5t &\leq 35 \\ -5t &\leq -25 \\ t &\geq 5\end{aligned}$$

Sven has concluded that he should spend 5 minutes or more on each scale. Is this correct? If not, what mistake did he make? Then solve for the correct answer.

7. Find the solution set of each inequality below, and then determine which inequalities have the same solution set as  $\frac{1}{3}(-5x - 3) < 14$ .

a.  $\frac{1}{3}(5x + 3) > -14$

b.  $\frac{2}{5}(10x + 20) > 44$

c.  $-\frac{2}{5}(10x + 20) < -44$

d.  $-\frac{1}{3}(5x + 3) < 14$