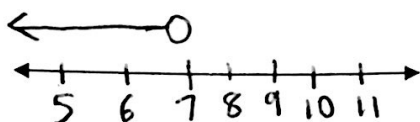


Chapter 3 Test REVIEW – Inequalities

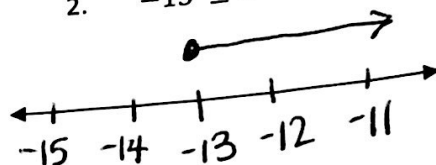
Name: Key
 period _____

Graph the inequalities on a number line

1. $x < 7$



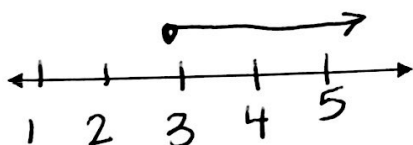
2. $-13 \leq R$



Solve and graph the following inequalities

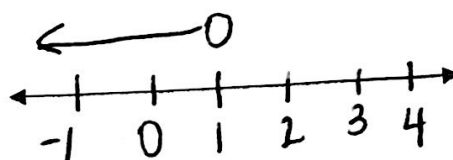
3. $8 + y \geq 11$

$y \geq 3$



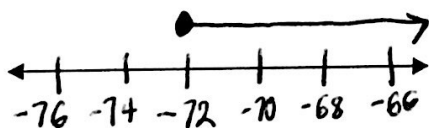
4. $-9 > x - 10$

$1 > x$



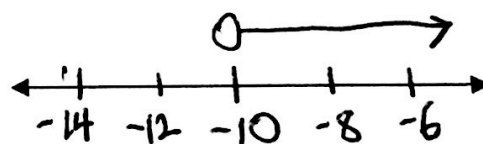
5. $\frac{y}{8} \geq -9$

$y \geq -72$



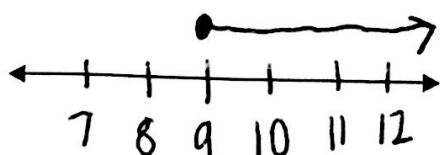
6. $15 - 3y < 45$

$y > -10$



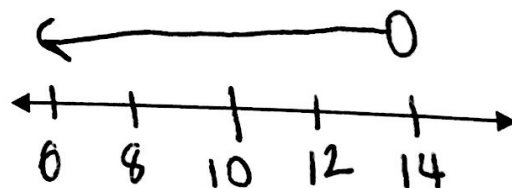
7. $7(r + 2) - 2r \geq 59$

$r \geq 9$

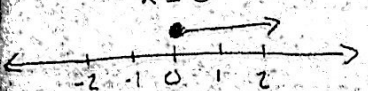


8. $7x - 9 < 6 + 3x + 41$

$x < 14$



9. The following inequality was solved by Mr. Neal. Two errors were made while he was solving this problem. Find and correct the two errors.

$$\begin{aligned}
 6x + 12 &\leq -2(x + 6) \\
 6x + 12 &\leq -2x + 12 \\
 +2x \quad +2x & \\
 8x + 12 &\leq 12 \\
 -12 \quad -12 & \\
 \frac{8x}{8} &\leq \frac{0}{8} \\
 x &\leq 0
 \end{aligned}$$


1. Error number 1 - When doing the distributive property
 $-2 \cdot 6 \neq 12$

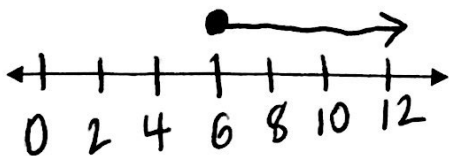
What should have been done instead? He should have said $-2 \cdot 6 = -12$

2. Error number 2 - When graphing he ~~said~~ ^{showed} $x \leq 0$ going to the right (greater than) or equal

What should have been done instead? - Since $x \leq 0$ means less than or equal to 0, the arrow should go to the left.

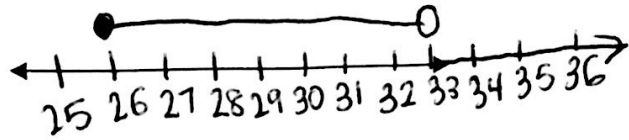
10. For the following inequality, explain in words, numbering each step, how you would solve and graph the inequality. Be as detailed as you can. You are allowed to solve the inequality to help you explain it in words. Be as descriptive as possible. EXPLAIN HERE

$$\begin{aligned}
 6(r - 4) + 5 &\geq 17 \\
 6r - 24 + 5 &\geq 17 \\
 6r - 19 &\geq 17 \\
 +19 \quad +19 & \\
 6r &\geq 36 \\
 \frac{6r}{6} &\geq \frac{36}{6} \\
 r &\geq 6
 \end{aligned}$$

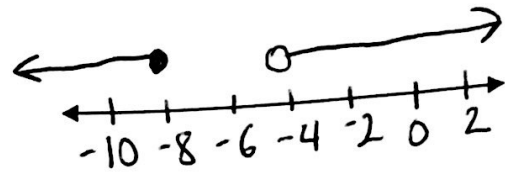


- 1) Distribute 6 to both terms
- 2) Combine like terms (-24 and 5)
- 3) Get rid of the constant w/ inverse operations (add 19 to both sides)
- 4) Get the coefficient to be 1 (divide both sides by 6)
- 5) Number the line appropriately
- 6) Place a closed circle above 6 since it is greater than or equal to 6
- 7) Draw arrow to the right (since it is greater than)

11. $x < 33$ AND $x \geq 26$

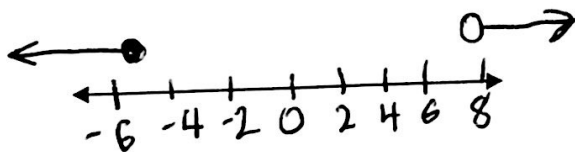


12. $x \leq -8$ OR $x > -4$



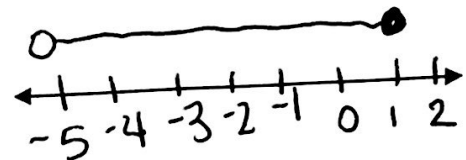
13. $5 - m \geq 10$ OR $6m > 48$

$-5 \geq m$ $m > 8$



14. $8 < x + 13 \leq 14$

$8 < x + 13$ $x + 13 \leq 14$
 $-5 < x$ and $x \leq 1$



15. Great news! You've been selected to be a contestant on the game show "who wants to be a millionaire"! The game show requires that you must do some trivia problems before you are on the show. You have to do at least 250 trivia problems that they send you before you appear on the show. You did 39 problems on Monday, 66 problems on Tuesday, 11 problems on Wednesday, and 34 problems on Thursday. The show is Saturday, so you must do the rest of the problems today!
 How many problems must you do today in order to be able to be on the game show?

$39 + 66 + 11 + 34 + p \geq 250$

let $p =$ problems today

$p \geq 100$

You must do at least 100 problems today in order to be able to be on the game show.