

3-3 Solving Inequalities Using Multiplication/Division ~ Notes

Investigation

Fill in the blanks with $>$ or $<$.

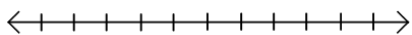
$$5 \text{ ____ } 10$$

$$-10 \text{ ____ } -20 \quad (\text{Multiplied } -2 \text{ by both sides.})$$

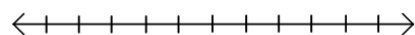
Based on this exercise, one might conclude, when you multiply/divide both sides of an inequality by a negative, you must _____ the inequality.

Practice: Solve and graph the solutions.

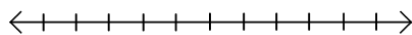
1. $\frac{x}{7} > -2$



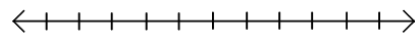
2. $8p \leq 32$



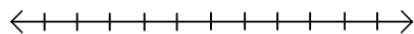
3. $\frac{2}{5}r \geq 6$



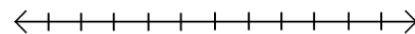
4. $-\frac{k}{2} < -5$



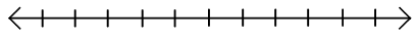
5. $-3f \geq 12$



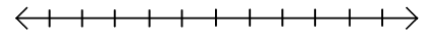
6. $\frac{3}{5}t > -9$



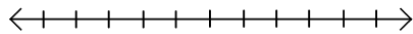
7. $-2w > -8$



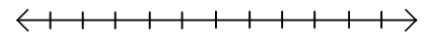
8. $-\frac{z}{5} \geq 4$



9. $-\frac{3}{4}d < -\frac{3}{8}$



10. $-4n \geq 14$



11. A bus company charges \$2 for each trip. It also sells monthly passes for \$50. Write and solve an inequality to find how many trips you could make before the monthly pass is cheaper.