

# READY

Topic: Solving Inequalities.

Use the inequality  $-9 < 2$  to complete each row in the table.

| Apply each operation to the original inequality $-9 < 2$ | Result  | Is the resulting inequality true or false? |
|--|---|--|
| Example: Add 3 to both sides                             | $-9+3 < 2+3 \rightarrow -6 < 5$                 | True                                       |
| 1. Subtract 7 from both sides.                           | $-9-7 < 2-7 \rightarrow -16 < -5$               | TRUE                                       |
| 2. Add 15 to both sides.                                 | $-9+15 < 2+15 \rightarrow 6 < 17$               | T  |
| 3. Add -10 to both sides.                                | $-9-10 < 2-10 \rightarrow -19 < -8$             | T  |
| 4. Multiply both sides by 10.                            | $-90 < 20$                                      | T  |
| 5. Divide both sides by 5.                               | $-9/5 < 2/5$                                    | T  |
| 6. Multiply both sides by -6.                            | $-9 \cdot -6 < 2 \cdot -6 \rightarrow 54 < -12$ | FALSE (uhoh)                               |
| 7. Divide both sides by -3.                              | $3 < -2/3$                                      | FALSE                                      |

8. What operations when performed on an inequality, reverse the inequality?  
(Be very specific!)

Dividing + multiplying by a negative!

SET